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Recreation Trails Seminar Held At: Calga
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RECREATION TRAILS SEMINAR

HELD AT:
CALGARY
LETHBRIDGE
EDMONTON
GRANDE PRAIRIE
RED DEER



INFORMATION BOOKLET



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PURPOSE AND OBJECTIVES OF CONDUCTING SEMINARS
ON THE TOPIC OF RECREATION TRAILS IN THE PROVINCE OF ALBERTA

The Alberta Government Recreation Committee is a standing committee of the Government of Alberta under the Chairmanship of the Hon. Horst A. Schmid comprised of senior officials of those departments, bureaus and agencies which have an interest, directly or indirectly, in the facilities and activities relating to all forms of recreation in the Province of Alberta. The function of this committee is to provide: communication and liaison among the various government departments, bureaus and agencies on their activities in this area; to provide input, recommendations, and specific expertise into any activity; to co-ordinate similar activities and programs among two or more departments, bureaus or agencies; and to advise the Government of the Province of Alberta, through its chairman, on policy proposals and recommendations relating to all forms of recreation in the Province.

Because this committee is comprised solely of government officials and deals with the wide and various aspects of recreation in all forms which affect the people of Alberta, there is a need to provide for a means of obtaining input, expertise, and feedback from the people of Alberta as citizens, participators and/or specialists in the various fields of recreation and outside the realm of a government department, bureau or agency. The Alberta Recreation Trails Sub-committee is seeking just such input in order that it may best advise the Alberta Government Recreation Committee on policy proposals for the development of a trails system in Alberta, and encourage the establishment of trails for their potential contribution to general recreation and improved levels of health. Thus the purpose of the Workshop Seminars on the topic of Recreation Trails in the Province of Alberta.

The Objective of the seminars is to determine how best the purpose can be served by realizing the following terms of reference on a permanent ongoing and meaningful basis:

1. to recommend policies for provincial trail system development and maintenance (including planning, site selection, design, use of trail and management techniques of present and future routes in Alberta),
2. to recommend on methods of facilitating and co-ordinating trail development conducted by municipalities and non-government organizations,
3. to provide a nucleus of expertise on trail system development and act as a clearing house for information,
4. to facilitate communication between local groups actively engaged in trail development,
5. to provide the initiative in co-operative trail planning among different levels of government,
6. to hear and solicit representations from public and provide assessment of these to the Alberta Government Recreation Committee.

Once a means of achieving the terms of reference has been established and the mechanism placed in motion, a number of specific tasks will require action. A number of the major and more immediate tasks are as follows:

- a) to prepare guidelines for the conduct of an inventory of all existing trails in the Province,
- b) to encourage publication of this information once compiled,
- c) to assemble a reference list of all publications relating to trails systems,
- d) to compile a set of guidelines on trail design, use and management,
- e) to encourage co-ordination between Federal, Provincial, and Municipal Governments in developing a trail system for Alberta,
- f) to aid groups working at the regional level to establish trails,
- g) to draw up policies for trail development,
- h) to consider the need for legislation to implement the suggested policies,

- i) to review proposals for new trails to ensure that they will be compatible with existing and proposed adjacent land uses and advise the Alberta Government Recreation Committee on probable conflicts,
- j) to consider ways of financing trail development in Alberta,
- k) to offer solutions for the continued maintenance and upkeep of all current and future trails,
- l) to consider the problems of using trails and how to prevent damage through good management,
- m) to consider how used education programs can be operated,
- n) to consider the need for a special committee to be established to co-ordinate planning and development of a province wide trail system.

In order to best accomplish the Objective and to fully realize the scope and complexity of the assignment, the following Workshop topics have been prepared to carry the seminar through to a logical and positive recommendation for implementation which will be presented and discussed at the final plenary session immediately following the 5th Workshop:

1. Discussion Groups - Trail Users

"Discussion of existing and desired trail activities - who uses trails, where are they and what are future desires."

2. Discussion Groups - Land Ownership

"Discussion of policies and practices that may permit or restrain trail development, ownership, control, decision makers, trends, etc."

3. Discussion Groups - Environmental Factors

"Discussion of factors influencing (positive and negative) development of trail systems."

4. Discussion Groups - Trail Concepts and Proposals

"Discussion of location and manner in which trail systems may be developed - guidelines, priorities, finance, designs, maintenance, purpose, advantages and disadvantages, etc."

5. Discussion Groups - Implementation

"Discussion of ways and means of organizing to develop trail systems."

While it would be very easy for government through a standing sub-committee on trails to meet the terms of reference and assume the tasks outlined above, it is the feeling of the Alberta Government Recreation Committee that the initiative should come from and remain with the trail users utilizing government resources and capabilities in a supporting role rather than a dictating role. In this support function the Alberta Government Recreation Committee Secretariat is prepared to facilitate any activities by arranging and recording meetings; compiling information to aid discussion; and preparing reports and recommendations for presentation to the Alberta Government Recreation Committee.

The Gate is open, the trail lies ahead - It's Your Move.

RECOMMENDATIONS ON RECREATION TRAILS

SUBMITTED TO THE ALBERTA GOVERNMENT

RECREATION COMMITTEE

Following are a series of recommendations submitted by various recreation organizations with an interest in these trails seminars.

These recommendations may be helpful in forming or confirming your own thoughts concerning future development of recreation trails in Alberta.

REPORT TO ALBERTA GOVERNMENT RECREATION COMMITTEE FROM THE ALBERTA

BICYCLING ASSOCIATION

The Need for Bicycle Trails

In recent years there has been an upswing in the popularity of the bicycle especially the tenspeed touring model. However, due to the swiftness of this increase very little has been done in Canada to build trails for them. A need for cycle paths is definitely seen, firstly, due to the need for increased safety for cyclists, secondly, to allow regular traffic to be unhindered by slower moving traffic and thirdly so that the bicycle can take a greater part in everyday recreation.

The Requirements

However, when analyzing the type of trail development required for bicycles it must be recognized that they have different needs from other types of trails. Generally, a bicycle trail would have to be banned to pedestrians, horses, handicapped people and any other slow moving vehicle due to the danger encountered if they were all allowed on the same trail. Motorcycles would have to be completely banned from bikeways and also prevented access to them.

The basic trail design would have to resemble something of the following specifications. Firstly, the trail would have to be hard packed, find gravel rounded stones or smooth concrete or asphalt to prevent punctures. Asphalt or some form of tarmac would probably be the most economical. If the trail was not hardpacked but instead dirt, there would probably be too much erosion and therefore ruts and small streamlet gorges would form in it. This fact also automatically rules out horses who would tend to rut a dirt trail but would not want to use a surfaced trail. Loose gravel paths would be too dangerous for bicycles. As far as width is concerned it would have to be wide enough to allow traffic both ways plus a passing lane. This would require a trail to be a minimum of four feet wide and a possible maximum as much as twelve feet wide with easy gradients. However due to the fact that most of these trails would be in or around developed areas there would be less environmental damage than one might think. Due to these specifications the trails would be compatible with such winter sports as across country skiing, snowshoeing and snowmobiling.

Trails In The City

Bicycle trails are needed most in and around the surrounding areas of large cities like Calgary, Edmonton, Lethbridge, Medicine Hat and Red Deer. In these places there should be a major system of commuting trails to the downtown areas which avoid vehicular traffic. As well there should be trails for more recreational oriented use. These two trail systems would be interconnected, which would prevent bicyclists from competing with traffic on main arteries thereby making bicycle travel much safer.

For commuting, service roads built parallel to main arteries could be used for this purpose. Also certain less used streets could be closed. Combining the two ideas above with trails through ravines and along the river, a major system of commuting and recreational trails could be built. MacKinnon Ravine and MacKenzie Ravine in Edmonton have dirt trails through them that could be upgraded for the bicycle and pedestrian. A trail linking MacKinnon Ravine with MacKenzie Ravine and then along the river to River Road and beside it would make an ideal bike path. Paths through Whitemud Ravine and along the south side of the river to the High Level bridge as well could be upgraded for bicycles. In Calgary trails could be built paralleling Memorial Drive and the Bow River along the parkland separating them. A point to remember is that Ottawa already has fifty miles of bicycle trails, in and around it.

Surrounding Areas of Cities (Approx. 25 miles)

Many cities have surrounding areas which have well developed country road systems. These roads should be improved so that they could carry bicycles. Improved shoulders and less gravel on them would make them much better. For example the roads out to Big Island could be improved. Another thing to consider would be cycle paths along the Saskatchewan and Sturgeon River valleys. One might put a trail from Edmonton to Big Island or from St. Albert to Elk Island National Park, paralleling the Waskahagan Trail. A trail from Lake Miquelon to Edmonton would also be useful for overnight recreational rides. As can be seen the idea behind trails to outlying areas would be to keep bicycles off the main roads and build a more scenic route than a main highway.

Mountains and Areas Away From Large Cities

For bicycling to the mountains and within the mountain regions themselves there are a few solutions for cyclists. Bike-ways would be built paralleling main highways but possibly taking

a more indirect and scenic route. This would only be feasible if there were a lot of cyclists who would use it. Another solution could be to fix old and unused highways and allow only bicycles along them. An example of this is the road about 30 miles from Edmonton on Highway 16 West which is an access road to houses. Also in the mountains there are sections of highways that were altered and now unused. This could form the basis for some bike paths parallelling the new highway. Another idea to consider would be using old highways that are still in use but allow only local traffic on them. Such roads as the Edmonton Beach road (old Highway 16 West) and old Highway 1 to Banff through Cochrane are examples. Old Highway 2 would also be reasonable if there was less traffic along it. Forestry Trunk roads and roads in the Coal Branch area would be ideal if traffic was limited on these sections of road as well.

In the mountains cars should only be allowed on the main highways. Any side roads such as to Maligne Lake, Miette Hot Springs, Johnson Canyon and old sections of highways should be set aside for bicycle use with no cars permitted during summer. Bicycles should be used to get from the townsites to hiking trails in the National Parks. In the mountains it would be unnecessary for bicycle paths to go any further than the start of hiking trails.

A possible circuit which could be set aside for bicycles would be the old highway through Evansburg and Entwistle. This is an ideal recreation area and no cars should be allowed into it during summer especially along the section of road that goes down into the Pembina River valley.

The Provincial Government and Trails

The Provincial Government should co-ordinate the development of trails. It should assist all organizations interested in developing trails of feasibility. Lastly, it should prepare maps of all existing and proposed trails in areas around cities and areas in the mountains showing type of trail and condition and present it as a booklet to interested parties.

Sub-Committee

There should definitely be an official sub-committee formed under the Alberta Government to study the proposals put forth by the different organization. It should be formed from one or two members from each type of recreation, i.e. hiking, bicycling, cross-country skiing, etc., depending upon importance, plus members from the Recreation Department of the Provincial Government. This sub-committee should put pressure on civic governments as well as the

provincial government to build more trails, improve the present ones and put out an atlas to the public of the existing and proposed trails.

Conclusion

Cycling is growing in popularity and will continue to grow. Facilities must be made available to cope with it so that the road doesn't become a battleground with the car and cyclist.

TRAIL DEVELOPMENT FOR HANDICAPPED PERSONS

Submission from the Edmonton Regional Committee on Recreation for the Disabled - October 5th, 1972.

A. There is a need for trails for physically handicapped persons. To our knowledge, there are presently no existing trails which would accommodate such persons.

B. Types of trails

1. Trails are to be accessible to various types of handicaps, including wheelcharis.
2. Snowmobiles could be used on "handicapped" trails during the wintertime.
3. Trails for handicapped could be used by entire family, thus providing one source of family recreation which would include the handicapped member.
4. Persons must be kept away from physical danger.

C. Degree of development required

1. Asphalt trail or another surface trail that would support wheelchair traffic.
2. Washroom facilities large enough to include wheelchairs.
3. Parking facilities convenient for wheelchairs.
4. A section of a trail could be so designed to be accessible to wheelcharis and the rest of the trail extended for others' use.
5. A winter and summer pavilion would be desirable in order that the handicapped person may have a place to wait while others continue their activity on the trail.

D. Regarding policy formation

Consideration should be given to the handicapped minority in policy formation.

Further details regarding technical requirements can be submitted from this committee.

P. Bogorus,
Secretary,
Edmonton Regional Committee on
Recreation for the Disabled.

A.R.P.A. SUBMISSION TO TRAILS COMMITTEE

CONCERNS:

1. The lack of knowledge on existing trails, their location, use, purpose, etc.
2. The lack of planning and co-ordination between the various governmental authorities - City, County, Provincial, on trails affecting all three - E.G. Waskahegan Trail.
3. Lack of control on ski-doo's and other motorized recreational vehicles with regard to environmental damage and unauthorized use of existing trails and parkland.
4. The need for more trails of all types, close to the large urban areas, Calgary and Edmonton especially.
5. The need to consider bicycle trails not only for recreational purposes but also as an alternate form of transportation.

ROLE OF PROVINCIAL GOVERNMENT:

1. Gathering of information on existing trails.
2. Publishing this information - possibly in Alberta Vacation Guide.
3. Taking the lead in co-operative planning of various levels of government.
4. Provision of some access to funds or manpower for the development of trails through S.T.E.P. or similar programs.

TRAILS COMMITTEE:

- should be established on a formal basis to provide information, guidance and policies to Alberta Government Recreation Committee.
- should be made up of members from various non-government Provincial recreational bodies with interest in trails and planners from at least the two major cities and the province.

Kenn Townsend,
President.

WASKAHEGAN TRAIL ASSOCIATION

The Association is making a hiking trail south from Edmonton along the Blackmud and Saunders - Coal Lake valley to Gwynne, along the Battle River and Camrose Creek to Camrose, then north to Miquelon Provincial Park and Elk Island National Park, over to Fort Saskatchewan and along the Sturgeon to St. Albert and back into Edmonton.

By April of 1973 we hope to print our first trail guide. It will describe about 24 miles of hiking (parts of the route Edmonton to Coal Lake and parts of the route Miquelon Lakes to Highway 14).

We have met with fine assistance from municipalities, the Department of Lands and Forest, individual landowners and the Chimo Kiwanis Club of Edmonton.

You can be sure that we value the interest of departments of the provincial government.

First, it lends credibility to the plan. Here is an example. In gaining permission from one landowner we were told that he knew we would be around. An official from the Wild Life Division had mentioned our trail to him. Permission was readily obtained.

2. Some of our trail goes through Crown land. Obviously we need the cooperation of the provincial government.

3. We hope to have further assistance in getting sites for overnight stops (cabins) and in getting logs for these cabins.

4. We hope to have provincial assistance in getting some help from Opportunity for Youth or similar programs in making sections of the trail.

5. We need help in the Coal Lake area to gain a route along that long lake.

6. In the Ord Lake area we have run into a private bird sanctuary which, taking into account the age of the owner, should be bought by the province. The lower part should be reserved for nesting birds. In the higher part well away from the nesting area we would like to make a section of our trail.

Our Coal Lake and Ord Lake problems are of course part of a much larger picture. We see the need for the province to help the municipalities save areas for wild life and for quiet recreation.

7. We suggest a study be made of the feasibility of hiking trails in the Coal Branch, in the area west of Calgary and Fort Macleod and in the Battle River area near Provost.

8. More important than all is the need for a persistent provincial campaign to improve the care Albertans take of the land. We note the final lessons of conservation and coexistence taught by Mrs. Joy Finlay of Edmonton's Parks and Recreation Commission, the close cooperation between schools and the naturalists at Elk Island Park and the work of the warden at Provincial Dinosaur Park. Something is being done but we hope more can be done.

9. We are much in sympathy with those wanting canoe routes, bicycle paths and cross-country ski routes and hope that you can assist them.

October 10, 1972

S. Skirrow
Secretary
7120 95 Ave.
Edmonton

SUMMARY REPORT

To: Temporary Trails Committee

Submitted by: Renee Poley

representing Alberta Association for the Mentally Retarded

Based on the two meetings I have attended, people I've talked to, and material I have researched I am convinced that handicapped people will benefit from any outdoor recreational activities related to trail systems. It is important that we (so-called "normals") recognize that handicapped people have many needs, interests and abilities similar to ours. Just as we enjoy sensory experiences derived from contact with the natural environment so do the handicapped. Just as we need to be more protective of our environment so do the handicapped. Just as we need to adapt to our physical surroundings and learn to appreciate nature so do the handicapped.

Therefore, any policies that are accepted by an acting government committee on trail systems must include all modifications necessary to accommodate all "categories" of handicaps. Based on this general recommendation. I stress the following specific points:

- A. A comprehensive inventory of all existing trails in Alberta is necessary before new trails are designed. This means contacting all public and private agencies as well as government departments involved with designing, planning, administering, operating, and maintaining outdoor recreational activities in Alberta.
- B. From this extensive inventory a detailed map showing what does exists should be drawn up. The purpose of this map is to enable the trails system committee to further study the present system.
- C. Based on the number of trails and userrates on these trails the committee can decide whether or not greater diversity is required. I personally think many types all available such as horseback riding, nature hiking, cross-country skiing, bicycle trails. The inventroy could include a sub-section or questionnaire which requests each agency, department, organization, etc. to stipulate facilities available to users, cost of operation and maintenance, existing problems, any future plans for revision, shut-down, or expansion, type of users (ex-campusl hikers), policies, regulations, and type of trail system.
- D. A sub-committee to gather the inventory results, compile all information available on trails, and form policies is necessary at this time. The function of this committees besides setting up method of taking the inventory and administering questionnaires,

is to make the public aware that it wants public feedback regarding general use of trails and need for a better coordinated system. Thus, the committee should make use of the media (T.V., newspapers, open line shows) to increase public awareness, interest and hopefully involvement. The committee also could organize a public hearing where briefs regarding suggestions for use of trails can be presented by Albertans.

Before any policies are actually recommended to the Alberta government Recreation Committee, the sub-committee must have made every effort to gather enough information to know what trails are available, what the user rates are as well as suggested future rates, how the public feels, and what agencies, organizations, government departments, private citizens will be affected by new policies and in what way.

- E. A questionnaire needs to be devised also to be sent to any organizations involved in helping handicapped people. (I have handed in a proposed questionnaire of this nature to Ms. Bonnett). This questionnaire includes items that request information on use of trails by handicapped people; type of trails used, modifications present or not present but necessary, user rates, suggestions for future use, expansion, etc. If results are poor from distribution of the forms, I suggest meetings to be held in various parts of the province where organizations concerned with the handicapped have a chance to provide this information in an open public hearing. Again, preliminary contact with the media will help to involve more organizations in responding to government requests for information. I believe that handicapped people themselves can offer the best suggestions for modifications they need on trails. Many handicapped people are involved in organizations for the handicapped and through answering the questionnaire will be able to give their opinions and well-needed facts.
- F. Any policies suggested by a committee should include setting up trail systems on a cooperative basis; that is, federal, provincial, and municipal governments must coordinate their contributions with each other as well as with private interests. An example of this is the Department of Agriculture's program involving farmers in recreational use of their land. Therefore, any committee should include representatives from all interests such that the entire provincial trails scheme is a cooperative effort. This may be better accomplished by setting up a Regional Trails System such that public and private interests in each region can be coordinated on a smaller scale.
- G. I strongly recommend that separate trails not be set up for handicapped people, for then we are only encouraging segregation and

and the social stigma that results. If certain modifications are included (and they are not that difficult or expensive to include) handicapped people can use the same trails as anyone else. The committee, therefore, needs a member who represents the interests of the handicapped, and is responsible for compiling all information relating to necessary recommendations involved. This member must not only send out a questionnaire and write up results, but handle contact with media, public hearings, workshops or seminars, related to increasing public awareness and involvement in stressing concerns of the handicapped in this area. The member's major responsibility is to keep contact with the multitude of organizations for the handicapped in Alberta, as well as with government departments on all levels that are involved in area of special services, such that he can gain greater insight into what is necessary to include in his recommendations.

- H. Any policies recommended should not only include plans for coordinating interests in present and future trails systems, but also suggestions for other uses of trails as well as recreational uses. Therefore, in policy making Outdoor Education specialists who work within the government and school systems in Alberta can contribute ideas as to how our trails can be used in a province - wide educational program. Also, a representative who can combine concerns of various ecology-oriented organizations and government departments can suggest ideas for a province - wide conservation and anti-pollution program. Therefore, the committee must consist of representatives from key public, private, and government bodies, and these same representatives together should come up with an interdisciplinary approach to the use of trails.

CONCLUSION

This report, therefore, recommends that the following be established before actual policies are devised:

- a) Comprehensive inventory of existing trails systems in Alberta;
- b) detailed map outlining location and discription of these trails as well as user rates;
- c) public questionnaire to be distributed to all private, public and government agencies and departments involved with trails systems in Alberta, this questionnaire to emphasize not only data gathering but attempt to establish differences of opinion in regards to types of trails needed;
- d) establishment of a sub-committee of the Alberta Government Recreation Committee to be labelled Alberta Government Trails Systems Committee, whose primary role is to gather necessary information, process it, and as a result formulate policies;

- f) this committee should take an interdisciplinary approach to trails use, such that other fields besides Recreation are a part of the policy-making.

Renee Poley

FINAL REPORT

THE USE OF SNOWMOBILES IN THE PROVINCE OF ALBERTA

A Report to the Alberta Recreation Committee

INTRODUCTION

On June 1st, 1970, The Alberta Recreation Committee established an Ad Hoc Committee to consider and report concerning the use of snowmobiles in the Province of Alberta. The Ad Hoc Committee has considered and investigated the problems evolving from the growth of this rapidly expanding winter recreation activity and we now recommend that:

- (A) APPROPRIATE GOVERNMENT DEPARTMENTS IMMEDIATELY UNDERTAKE TO CREATE A TEMPORARY SYSTEM OF SNOWMOBILE TRAILS AND USE AREAS ON PROVINCIAL LANDS
-

Few trails and use areas have been developed in Alberta for the express purpose of encouraging the sport of snowmobiling. The Ad Hoc Committee is of the opinion that designated trails and use areas serve to increase public enjoyment and reduce potential accidents.

It is further suggested that:

1. Responsibility for creating this snowmobile trail system would be that of the Alberta Forest Service, Department of Lands and Forests.
2. Trails should be developed and located to advantageously use existing cut-lines, abandoned rights-of-ways, easements, etc.
3. Such a trail system should involve little or no new cutting or grading.
4. The Department of Lands and Forests allocate funds in the 1971-72 fiscal budget for the development of a snowmobile trail system.
5. A standard system of snowmobile trail and area markers be adopted by the Government. Such standard markers or signs should compliment, where possible, those adopted by other provinces and states.

(B) A STUDY BE UNDERTAKEN TO INVESTIGATE AND DETERMINE SNOWMOBILE USER CHARACTERISTICS AND PREFERENCES IN THE PROVINCE OF ALBERTA

Currently, objective snowmobile research data is minimal and it is considered imperative that objective data be obtained through which realistic planning can be implemented to best serve the requirements of the snowmobiling public and the public in general.

Research studies of this type would investigate socio-economic and user preference characteristics of snowmobilers in Alberta. This data could reveal information that would indicate:

- | | |
|--------------------------------|---------------------------------|
| 1. When the vehicles are used. | 5. Areas that are preferred. |
| 2. How often they are used. | 6. Services that area required. |
| 3. Where they are used. | 7. Who uses the vehicles. |
| 4. Why they are used. | 8. Age groups involved, etc. |

The Ad Hoc Committee has located one uncompleted study relating to the use of snowmobiles in the Edmonton area. It is our opinion that this study data could be obtained to assist provincial planning. However, the researcher is in need of financial assistance and it has been determined that aid in the amount of \$500.00 would be sufficient funding to assure completion of the study. The Ad Hoc Committee strongly recommend that this study be supported by the Provincial Parks Division, Department of Lands and Forests, to assure completion of the study and acquisition of the research data.

(C) SNOWMOBILE SAFETY TRAINING PROGRAMS BE ENCOURAGED AND ASSISTED, BUT NOT IMPLEMENTED BY THE GOVERNMENT.

The Ad Hoc Committee suggest that it is premature for the Government to establish any system of mandatory safety training and we recommend that appropriate Government Departments assist the private sector and the Alberta Snowmobile Association to:

1. Develop Safety Training Programs for owners and operators.
2. Create a Voluntary Snowmobile Patrol System.

(D) ENTREPRENEURS BE ENCOURAGED TO DEVELOP SNOWMOBILE USE AREAS, TRAILS AND SERVICE FACILITIES TO SERVE SNOWMOBILE NEEDS.

It is acknowledge that private developers are interested and currently involved in providing these services. We concur that Government cannot and should not be required to provide all

services and facilities for recreation. We, therefore, recommend that Government encourage the private developer to provide areas and facilities for snowmobile use.

- (E) THE GOVERNMENT SHOULD DISTRIBUTE A PUBLIC INFORMATION BROCHURE RELATING TO THE USE OF SNOWMOBILES IN ALBERTA (as drafted by the Ad Hoc Committee)
-

Such a brochure would include a summary of regulations, safety hints, code of ethics, etc.

- (F) REGISTRATION BE MANDATORY FOR ALL SNOWMOBILES.

The committee suggests that:

1. Owners and operators must be responsible for their actions and their snowmobiles must be easily identifiable.
2. To assist provincial planning it is important that the number of operating snowmobiles be known.
3. These snowmobile owners will demand services at the expense of the general public. For this reason, we suggest using generated registration revenue for administration, supervision, planning, and developing services relating to snowmobile operation.
4. Registration would be valid for a 2 or 3 year period.

- (G) CONSIDERATION BE GIVEN TO IMPLEMENTING MANDATORY REGISTRATION FOR ALL-TERRAIN MOTORIZED VEHICLES.
-

The Ad Hoc Committee suggests that:

1. Although these vehicles may or may not be operated on public roads, the committee submit that owners must be responsible for their actions and their vehicles must be easily identifiable.
2. Revenue from registration could be used to meet the ever increasing demand for public recreation areas and facilities for these vehicle owners.

(H) THE DEVELOPMENT OF A PROVINCE-WIDE MULTIPLE-USE TRAIL SYSTEM
SHOULD BE INVESTIGATED.

In view of the fact that snowmobiling is not the only recreation activity requiring trails, the Government should, in the future, undertake to develop a year-round system of multi-use trails capable of serving a wide variety of outdoor recreation activities.

Respectfully Submitted,

Emmett H. Smith, Chairman,
Ad Hoc Snowmobile Committee.

Committee Members-

Mr. Larry Beres
Committee Secretary
Alberta Recreation Plan Study Team

Mr. Ernie Psikla
Fish and Wildlife Division
Dept. of Lands and Forests

Mr. Bob Thompson
Alberta Dept. of Industry and
Tourism

Mr. Doug Lyons
Alberta Forest Service
Dept. of Lands and Forests

Mr. H. C. Duguid
Alberta Dept. of Highways and
Transport

Trails Committee

October 10th, 1972

Joy Finlay

Federation of Alberta Naturalists

A young educator recently summed up a discussion this way:

"No matter what you're doing out doors, it involves a trail - either following one or making your own. Trails have got to be one of the most important priorities for recreational planning and development now."

1. We recommend that a Trails Committee be appointed as an advisory committee to the Alberta Recreation Committee.

Composition and Representation:

- suggest 12 members
- representing diverse interests and responsibilities of voluntary, public and government organizations in Alberta (see list of ad hoc committee representatives and E.H. Smith's proposal)
- to meet about four times in a year
- representatives could have alternates appointed to attend in case of their absence

Purpose:

- to consider and advise policy for planning, selection, development, use and management of present and future trail routes and systems in Alberta
- to provide a communication link between government departments, groups and individuals of various interests and concerns

2. Problems and Concerns - the following are some that have been expressed:

- A need for more trails is generally recognized, but development of trails should not go on without planning and zoning for specific use, establishing standards for development and guidelines for management.
- Multi-use conflict, especially between "foot-users" and "motorized-users" is of prime concern.
- Designation and acquisition of areas appears urgent - need to set aside areas while they are still available.
- Consider rights-of-way for trail ways - i.e. flood plains, old roads, abandoned railways, hydro lines, cut lines, road allowances, stream and river sides.
- Trail systems cannot be without problems - will designated areas be used, or will some participants run roughshod over private property, plantings, fences? Would facility areas along routes minimize disturbance of natural areas?
- Education and interpretation are every bit as essential as designation and legislation for trailways. How can resources for educational and interpretive programs be mobilized for more use without abuse?

3. Role of Government - some suggestions:

- a) Legislation - to protect land owners who provide access
 - to designate regional lands for future needs; to keep rights-of-way; for acquisition of land
- b) Funding - to provide a central source of information, publicity, and co-ordination (we don't know what we've got; tend to operate in isolation rather than part of a whole)

- to assist and encourage rural municipalities in planning and managing recreational and wilderness areas. (There is a terrific resource in rural districts but no one is looking after it, especially those close to cities.)
 - offer design information and some measure of supervision or guidance for development
- c) Planning - standardization and guidelines for development and management of trail systems for Alberta
- design information relevant to Alberta topography and vegetation
 - initiate good design, management and program on Crown lands (Forest reserves and Provincial Parks could provide examples of techniques)
 - to integrate urban and rural trail development into regional land use planning and program
 - invite presentations (ex. hearings, participatory planning)

In summary: need Planning, Action and Funding, and in that order.

Proposed Provincial "Trails" Subcommittee

From: Ellis Hammer, Vice President
Northwest Region
Canadian Youth Hostel Association

The C.Y.H.A. is presently developing long-range goals for a hostel system in Alberta (and possibly the territories) similar to the European hostel system. The hostels would most likely be located along existing scenic routes that are popular or would become popular. We want Canadians and Canadian youth of eastern Canada to be aware of what Alberta and the west have to offer. Also, we think travelers should have an alternative to travelling solely by motorized vehicles; mainly cycling, hiking, canoeing, cross-country skiing and snowshoeing.

The C.Y.H.A. sees the need for:

- (1) Many more trails of a diversified nature in and near (1-2 hour drive) large urban centers, complete with campsites, shelters and basic facilities, such as toilets and water.
- (2) Trails in natural recreational areas such as, for example, the Cardinal Divide, Lesser Slave Lake, Cold Lake, and Pincher Creek areas; also complete with campsites, shelters and basic facilities.
- (3) Basic facilities such as garbage cans and toilets at the beginning and end of each section of a trail.
- (4) The education of all trail users as to their responsibilities when using the trails.
- (5) Trails into provincial mountains primarily for the use of backpackers, with campsites designated and basic facilities provided.
- (6) Designation of the proper usage of all trails. Activities that are not compatible should not share the same trail. Example: horses ruin hiking trails.
- (7) Reactivation of some abandoned trails such as in the Red Deer Panther River area.
- (8) Compilation of list of all trails in the province that now exist.
- (9) Designation of waterways as trails, protection of rivers by a Wild River Act, and of other waterways by special legislation (if necessary). No development should be allowed along any of the waterways for a specified distance. Land trails could and should be located along such waterways, but campsites should not be.
- (10) Development of new trails which would link existing trails into a more complete system, or bring new recreational areas into being.
- (11) Establishment of cycle paths along existing (and future) highways or the development of trails specifically for that sport.
- (12) Co-ordination of all previous items by a single recreational body through which all users, developers, and administrators would negotiate.

A Provincial Trails Sub-Committee would be responsible for:

- (1) The co-ordination and approval of all trail development in Alberta while assuring that:
 - (a) Existing trails are linked together wherever possible.
 - (b) Trails in new areas are developed according to the need.
 - (c) The impact on the environment is minimized while the benefit to trail users (where compatible) is maximized.
 - (d) Existing laws are not violated.
 - (e) New laws are proposed when and where needed.
- (2) The tabulation of all necessary information on all existing trails for publishing.
 - (a) This information would be provided to a department of tourism.
- (3) Providing the grass-roots contact of recreational and environmental people.
- (4) Providing the expertness, encouragement, and enthusiasm to cities, counties, regional bodies and recreational clubs and associations for the development of trails in their areas.

One big advantage of a "Trails" Sub-committee is that organizations would work through only one government body rather than several.

BACKGROUND MATERIAL

TRAIL CONDUCT

From Chinook Trail Association

FIRES

Fires are permitted only at specified sites. Landowners can restrict or prohibit any and all fires if fire hazard is high.

FIREARMS

Not permitted on trail, except with specific permission of the landowner.

TRAIL USE

Vehicles and horses not permitted on trail. Marches by large groups of people are not permitted.

PROTECTION OF NATURAL HABITAT

Users of the trail are not permitted to disturb, remove or destroy trees, shrubs, flowers, etc. All flora and fauna along the trail are and remain the landowner's property! Streams and water courses must not be disturbed, tampered with or polluted.

ABUSE IN GENERAL

Refuse must be carried out. Take out what you bring in! Where disposal facilities are provided, the use is a MUST. Noisy parties, rabble rousing, etc., are definitely prohibited.

GENERAL RULES

Do NOT smoke while walking. Sit down to have a smoke and make sure ashes are dead out before proceeding.

Camp only at regular campsites - register if so required.

Register before entering a trail section, both for your own achievement record and protection of the landowner.

Carry your membership/insurance card.

Keep dogs on leash or other control near crops or herds.

Stay on the trail; do not take short cuts or cross fences.

Drink only from posted water sources, tested and safe for consumption.

Respect closing signs put up by landowners. Such signs will be there for a reason.

Watch for and report erosion of the trail. Make temporary repairs if necessary.

Police your own behaviour or others will do it for you!

NOTE: All rules and regulations subject to the authority of the landowner.

Trails (in Alberta)

Mary Dwyer
October 1972

- Background Resources: Various publications by the Federation of Ontario Naturalists
- : Trails for America, 1966, Dept. of Interior, U.S.A.
 - : Developing the Self-guiding trails in the National Forests, 1964, USDA
 - : Various publications by National Audubon Society, NY, NY.
 - : Various publications regarding Trail Use Surveys as issued by the National Parks Service, IAND, Canada
 - : Waskahagan Trails Association, P.O. Box 131, Edmonton, Alta.
 - : Bruce Trails Association, 33 Hardale Crescent, Hamilton, Ont.
 - : Rideau Trail Association, 9 Grenville Road, Kingston, Ont.
 - : The Trail of Five Rivers by D.W. Guscott, Waterloo, Ontario (a conceptual hiking trail)
 - : Various issues of Park News, the Journal of the National and Provincial Parks Association of Canada
 - : The Centennial Trail
 - : Various bits of material on The Great Divide Trail, most written by J. Thorsell, issued by National Parks Service, and by N.P.P.A.

HIKING TRAILS

From the Bruce Trail Manual

The Trail Manual is designed to supply working instructions and information for the standard construction of the Bruce Trail. Subsequent instructions on special aspects such as campsites, shelters, etc. will be issued as required. Most of the material in this manual is culled from the Appalachian Trail Manual, representing experience accumulated over many years.

General Principles

The Bruce Trail is designed for foot travel and is primarily for the purpose of affording pleasure and recreation. It follows the general line of the Niagara Escarpment and it should connect as many points of beauty and as many high places affording wide views of the surrounding countryside as is possible.

In the construction of the Trail, the following points should be remembered:

1. Avoid grades of more than 20%, as hikers carrying packs will be using the Trail and will tire on steeper slopes.
2. Avoid roads used by traffic, if this is possible. Sometimes these roads will be the only route and then they will have to be used.
3. Avoid repeated crossings of a stream and use existing bridges where possible. Bridges will have to be built where none exist.
4. Avoid areas which are marshy at any time of the year.
5. Avoid areas with dense annual growth, as maintenance can then be a major problem.
6. Avoid the bases of cliffs, as the original development of the Trail can be difficult due to the presence of large boulders. Upkeep is also made more difficult.

7. Avoid buildings and cultivated land as much as possible.

Preference in the choice of route should be given to open and mature timber with little undergrowth. Sources of drinking water are essential on the trail, and the trail should always be located to pass any known source. Eventually there will be camping sites at intervals of approximately 8 miles and, at these places, good water is imperative. The time to find these sources of water is when the trail is being built.

Care should be taken to avoid fire hazard and damage to fences and other property. Gates and bars should always be closed after passage. A frequent source of ill will is the destruction of fences by hikers. Objection on this score can be anticipated and obviated by an agreement with the landowner that part of the construction of the Trail shall consist of the erection of stiles over fences.

Owners of land should be interviewed after the location of the trail, but before any cutting or marking is undertaken. The nature and purpose of the trail should be made clear to them, with a request to be allowed to cut and mark the route.

Satisfactory use of the trail, including permanence of trail markers, permission and facilities for camping, and assistance in need, depends, to a very large extent, on the goodwill and co-operation of the landowners and residents along the route. Obviously such goodwill and co-operation should be reciprocal, and good trail manners and courtesy are essential. It should also be remembered that, since the trail must be continuous, careful consideration should be given to ensuring that each link properly contacts the next. This can best be achieved by

co-operating individuals or groups first contacting the Bruce Trail Association for directions.

Locating the Trail

With the "General Principles" in mind, control points such as road intersections, bridges, summits, etc., should be selected. The area between the control points should then be walked over and the best route chosen. Sometimes, by reconnoitering at right angles to the proposed route, a satisfactory path, going in the direction of the trail, can be found.

The best way to mark the located route for the construction party is by stringing. This is done by carrying a cone of grocer's white string (which averages about a mile to the pound) on a short stick and letting it unravel as you advance. The string can be more easily followed if it is occasionally hung from branches, and it can be easily removed if this becomes necessary. White or colored rags can also be used to mark the route temporarily.

The stringing can best be done by three people, the most experienced in the centre and the others on either side within hailing distance. When necessary, they can come together for consultation. The entire section of the trail should be located before any construction is undertaken. Locating the trail is easiest when there is little foliage on the trees or on the ground.

Clearing

CROSSLOGS: Always remove. First make a cut at the side of the trail and it may then be possible to move the log. If this is not possible, a second cut will have to be made. Avoid short-cutting whereby the ends of the

log still narrow the width of the trail.

SMALL TREES: It is better to remove small trees growing along the edge of the trail than to try to prune them. They should be cut out completely, as stubs cause stumbling and also tend to sprout.

BRANCHES: Cut close to the trunk. Cut all branches within reach and two-thirds of the way round the tree.

BRUSH: Cut everything that obscures the footway and cut wide. A wide trail is less easily obscured by new growth.

GRASSES, FERNS, LOW BUSHES, WEEDS: Remove wide enough to clear the footway and prevent wetting the feet with rain and dew. Disturb the soil as little as possible to prevent erosion. WIDTH OF TRAIL: Depending on the type of growth encountered, the trail should be from four to six feet wide and it should be cut wide enough so that nothing touches the hiker and so that it will not grow in for several years. In scrub, where rapid growth is particularly troublesome, cut to double width.

HEIGHT OF CLEARING: Cut as high as can be reached, as snow and rain will weigh down the branches. Branches which will clear the head will often obscure the vision of someone travelling downhill. Be on guard against the tendency not to cut high enough when working uphill.

CUTTINGS: Cuttings must not be banked at the edge of the trail, on account of the fire hazard. They should be thrown well out and scattered and, when constructing the trail, two people should be given this job, following the main work party.

Marking

A. Blazes

The tree blaze is the primary route-finding method of marking the Bruce Trail. To assure permanency, the blazes are painted and particular effort should be made to avoid the disfigurement caused by too-large, improperly placed, and too numerous, blazes. On the other hand, under-marking by reason of insufficient blazes is inexcusable.

The marking should be unmistakable, permanently indicating the trail, and should be continuous. There should be no gaps in the marking. Blazes should be made on trees prominently placed and which strike the eye. The blazes should always be well placed at eye level.

The standard blaze is 6 in. long and 2 in. wide (no more) and is placed vertically on the tree. This shape is much more effective than other shapes such as a bulls-eye. Blazes are put on in a fore and aft direction, the same as markers on a highway. Blazes parallel to the trail are of no value and can easily be misleading.

The frequency of paint blazes depends on the nature of the trail. On narrow woodland trails, blazes should be visible from each other. On well-worn woods roads, blazes can be placed farther apart, depending on the nature of the terrain. It is a prime essential that, immediately beyond any crossing road or trail, there be a trail indication. As this blaze may become obliterated, it is wise to have a second blaze 50 or 100 ft. beyond the crossing.

Do not fail to mark a trail because of the thought that no one could possibly get lost in that area. Conditions on the

trail can easily change by activities such as lumbering. There should not be a sudden change in the frequency of the blazes, as continuity of the markings is essential to an assurance that one is following the proper route of the trail.

At important changes in the route, such as where it turns into a less well-defined trail or road, there are used two unconnected blazes of the prescribed size, one above the other, at right angles to the trail.

To insure adequate and proper spacing, trail blazing should be treated as a separate job in each direction; the blazes should be painted in one direction and then in the other. When possible, the same tree should not be used for blazes in both directions, a destruction of the tree means a two-fold loss.

Making the Blaze: The surface of the tree should first be prepared. Experience has shown that smoothing the bark produces results superior to the old method of making a blaze by completely removing the bark. The easiest method of preparing the bark is by using a hardwood floor scraper with a $2\frac{1}{2}$ in. blade and a 6 in. handle. These are easily obtained and can be carried slung over the shoulder by a thong through a hole in the handle. Occasionally, when the bark is very hard, the initial smoothing must be done gently with an axe. The bark is smoothed over an area the size of the blaze. This makes a neat blaze and prevents the paint from running.

The standard color of paint used in the Bruce Trail is white. This has been shown to stand out the best in all types of country, although where birches are prevalent, its efficacy may be a little reduced. Any good white out-door paint can be used.

Blue is used to mark any side trails to view points, water, supplies and the like.

Renewing old blazes is necessary from time to time. Rescraping should always be done and then paint applied. If the old blaze has been partly obliterated by new growth of the bark, it is better to obliterate the old blaze and make a new blaze on a different tree.

All old blazes which are not to be renewed should be obliterated with a paint which blends with the colour of the bark. If a trail is to be relocated, all old blazes should be neutralized. A mixture of brown and dark blue paints normally produces a much more satisfactory neutralizing colour than an ordinary brown paint. Occasionally, with the passage of years, the neutralizing paint will wear away and will expose the original blaze. More neutralizing paint will then have to be applied.

B. Markers

The Bruce Trail markers are the insignia of the route, and these metal markers may be obtained from the Bruce Trail Association.

These metal markers should be placed at eye level, in the same manner as the paint blazes, and they should be conspicuous and should never be at right angles to the trail. They are intended for use

along the trail at regular intervals. Under ordinary circumstances, four markers to the mile are sufficient, but, if vandalism is expected, more markers should be used.

At all intersections of the trail with other trails, wood roads and highways, there should be a Bruce Trail marker on the trail route on either side of the intersection, with the face of the marker clearly visible from the intersection.

Markers should never be placed on the poles of telephone or electric power companies, as they may cause a linesman's spikes to slip, and therefore the markers would be removed.

The markers should be fixed with two galvanized nails, or if vandalism is expected, by four nails. One half inch of the nail should be left protruding to allow for the growth of the tree.

C. Cairns

Cairns are used to mark the trail when trees are lacking. A cairn should consist of a pile of stones built in a manner which is obviously artificial. Do not build too small a cairn, as often, in areas where cairns are necessary, there is a large annual growth of grass and this can easily obscure the cairn.

A cairn should be tested for sound construction by giving it a push equal to the force of a gale. In sections where grazing takes place, cattle may demolish the cairn. This can be avoided by using larger stones.

Occasionally rocks can be blazed to indicate the route of the trail, but

these should be used only if the rock is in every way suitable. The marking of rocks on the ground is useless, as, at different seasons of the year, they may be covered by snow or fallen leaves.

D. Signs

Signs should be placed at the principal points on the trail; in particular, where highways cross the trail. Signs, giving the following information, can be obtained from the Bruce Trail Association:

1. The name: The Bruce Trail
2. A walking trail along the length of the Niagara Escarpment.
3. The address from which information can be obtained.

In addition, a second type of sign should be used, giving the approximate distance to the next objective on the trail. Similar signs should be used for any side trails. These signs will have to be constructed locally, and are best made of white pine, basswood, poplar, or some other soft wood which will hold paint well. Boards should be $\frac{1}{2}$ in. thick, the background being preferably white, although blue or orange is acceptable, with plain Gothic (block style) lettering in black.

The average length of life of a sign is about 7 years and it can then be either mended or replaced. Sometimes the appearance of a sign in the field can be greatly improved by wiping it with a wet cloth.

Upkeep of Trail

The whole length of the trail should be checked at least once a year and any

necessary maintenance performed. If the annual growth is heavy, the trail should be checked at least twice a year.

Flashes will probably have to be renewed every 3 years and very few will last more than 5 years.

Replacement of markers and signs should be undertaken when necessary.

Tools

In general, the most serviceable trail-clearing tools are a long-handled axe, long-handled pruning shears (33 in., not hedge clippers) and a weeder.

After the initial construction of a trail, maintenance problems can be cared for by use of pruning shears and a weeder. The shears are used to remove sprouts and branches. The weeder is a light weight tool, which serves in lieu of a scythe to eliminate the obscuring summer growth and to present a wide open trail. The axe or saw is the third essential to cut out blow downs.

AXE: A single-bitted $3\frac{1}{2}$ lb. axe is the most suitable, but individual preferences vary widely. Only experienced woodsmen should use a double-bitted one. The axe should be kept sharp.

CARBORUNDUM: A round stone, coarse and fine combined, is the best for field use.

PRUNING SHEARS: Handles should be about 33 in. long. Use the shears on live wood only, cutting at an angle. Do not use them to knock off dead stubs and do not twist them. Constant care must be exerted to cut close to the ground and avoid leaving stubs.

WEEDER: It is essential that the blade be kept sharp for the removal of herbaceous growth.

SAW: The orthodox cross-cut saw has been

largely replaced by the one-man Swedish pulp saw. Cover the teeth with burlap to prevent damage, if carrying for a distance.

WEDGES: A hickory, oak, or iron wedge for use with the saw is essential.

GLOVES: Remember to have a pair with you, if you are not used to manual work.

Other tools, such as scythes, bush-hooks, machetes and mattocks, may be useful, but are not essential. A lightweight mattock can be employed to remove roots from the path.

When organizing a work party, one should remember that sometimes tools break and spare handles and chocks for axes, etc. can be carried, if one deems it necessary. Individuals should experiment with the best type of paint carrier before going into the field.

BICYCLE TRAILS

Prepared for the Department of
Culture, Youth and Recreation

Province of Alberta, May, 1973

Compiled by Dale Schulha

Bicycling has undoubtedly become one of the most popular leisure-time activities in North America. In the past four years especially, the number of bicycles travelling our streets and highways has increased tremendously. The most significant increase has been in the number of adults engaging in this life-time sport.

People from all walks of life are using the bicycle not only for recreational purposes, but also as a mode of transportation to and from work. When viewing the advantages of bicycling, it can be seen that the bicycle offers:

1. No pollution
2. Low upkeep
3. No noise
4. Small space use
5. Reliability
6. Non-congestion
7. Healthful exercise
8. Enjoyment

As a result of the encompassing interest shown in bicycling, it becomes apparent that bicycle trails or paths must be constructed, especially for recreational use. It should be noted that in various parts of the United States special bicycle trails have been constructed to serve the needs of workers in congested city centers. However, it does not appear that the need for this type of construction is warranted in Canada as yet.

A variety of recreational bicycle trails have been developed. Some trails have been constructed from abandoned railroad tracks and extend for miles. Other trails have been constructed in scenic forest locations, in both urban and rural settings, and vary in length from one to ten miles. Irregardless

of the type or length of the bicycle trail, there are some basic principles which are usually followed in the construction and operation of the trail. These principles are covered in the ensuing literature.

General Principles

Bicycle paths should be located in areas promising a high degree of utilization of the paths.

The highest bicycle "population" can be expected in residential areas where comparatively easy physical access to bicycle storage such as garages, sheds and basements is available. Single family dwellings and row houses fall into this category, apartment blocks may not.

The paths should lead, if possible, to activity centres such as beaches, picnic grounds, horticultural display areas, schools, employment centres, etc.

Between origins and destinations, as described above, the path should introduce the bicyclists, where possible, to interesting land forms, variety in vegetative cover, water courses and historic sites. This can make it visually worthwhile to ride just a segment of the bicycle route.

In order to avoid the monotony of long tangents, the path should follow a curvilinear alignment in harmony with the topography and existing tree cover. Supplementary planting may enhance the overall appearance and serve as a visual or noise buffer.

Pleasant views can be emphasized by leading the path into their direction for a short distance. A conscious effort should be made to leave a significant amount of

vegetation in its primitive state. This is especially effective along riverbanks and old hedge rows where grass cutting and underbrush clearing may remove distinct characteristics.

Path System

Most bicycle paths should be interconnected within the comprehensive path system. Where direct connection is not possible, parts of the parkway and street system may be utilized as a link. However, arterial roads should be avoided because bicyclists are incompatible with high speed, high volume traffic.

Loops within a system would enable those who are out for a ride of several miles to return by a different route. This could offer several subsystems to the user and so make the overall system more attractive. The location of the loops depends mostly on the availability of routes for the purpose.

The usefulness of the loops depends on the successful match of their lengths to the length of the average pleasure ride on a bike. This length is estimated to be between 3 and 6 miles. The estimate excludes the habits of advanced bike riders as well as those of beginners. (The advanced bicyclist can travel several loops while the beginner can travel part of a loop and return via the same route.)

Entry points to the path system will be planned in some cases, while in others they will happen as a result of the path crossing a street. Existing desire lines should be considered.

Each section in the overall system should have a name distinctive of the locality the path runs through. The name should be posted along the path to identify the section. Where streets are used as part of the path system, the signing

should continue along the street. Maps and displays should indicate the various routes and sections to the users.

Type of Use

One-way exclusive bicycle paths

Where a separate pedestrian path or sidewalk is located nearby and where a bicycle return route is also in close proximity (e.g. location between sidewalk and street surface on each side of the street.)

Two-way exclusive bicycle paths

Where separate pedestrian path or sidewalk is located nearby (e.g. independent alignment along parkway also served by separate footpath.)

Combination two-way bicycle and footpath

- a) New construction in areas not previously serviced by a footpath. Alignment independent of parkways where possible.
- b) Existing footpaths converted by widening, re-alignment and reconstruction of road crossings and sufficient clearances.

Combination parkway and bicycle path

Any parkway with a legal speed limit of 35 m.p.h. or less can be used by both cars and bicycles without abnormal danger to bicyclists. Those parts of a parkway used as connecting links in the path system could be signed by suitable guide signs.

Combination street and bicycle path

Local or collector streets with a legal speed limit of 30 m.p.h. or less can be used by both cars and bicycles without abnormal danger to bicyclists. Arterial roads with high volumes of traffic should be avoided if possible. Those parts of streets used as connecting links in the path system could be suitably signed.

Competitive Tracks

A bicycle race track consisting of a loop can be used to promote bicycling and bicycle racing. The loop should have sharp, superelevated curves and a length suitable for racing events. Facilities for spectators such as parking, toilet facilities, concessions might also be considered.

Park benches should be provided along existing and proposed paths. These can be integrated into overlooks, points of interest, etc.

Design Standards

Width

A bicycle is approximately 2 ft. wide. Since a bicycle does not move in a straight line as a four-wheeled vehicle does, additional width has to be allowed for the swinging movement caused by the effort to balance the bike. The total effective width of one lane should be $3\frac{1}{2}$ ft.

A two-way path must be constructed at least 2 lanes or 7 ft. in width. A one-lane path allows only traffic with no provision for passing and is not generally recommended for a new construction. If bicycle traffic becomes very heavy, a two-lane path can be widened into a three-lane path (10 ft. wide) to accommodate three lanes of traffic.

Existing footpaths to be converted into combined-use bicycle and pedestrian paths should be widened to 7 ft. minimum.

Clearance

Fixed objects (e.g. trees) should be clear of the edge of the path proper by at least 1 ft.

Minimum overhead clearance (e.g. at underpasses or under tree branches) is 7 ft. However, an overhead clearance of 9 ft. is desirable for reasons of visual appearance, etc.

Railings should be set back 1 ft. from the edge of the bicycle path to allow for a safety margin, because of the proximity of handle bars to the railings.

Where fences have to be crossed, the opening must be at least as wide as the path but should preferably be one foot wider on each side.

Grades

Long grades should not exceed 3%. Short grades (up to 300 ft. long) should not exceed 4%. Any grade steeper than these will force most bicyclists to push their vehicle.

Long steep grades should not follow a straight alignment.

If topography demands the construction of grades steeper than those described, two one-way paths should be used. The downhill path should not be steeper than 6% and its curves should be superelevated. The uphill path can be considerably steeper and shorter, and the distance to push the bike uphill will therefore be reduced considerably.

Alignment and Superelevation

Curves on a bicycle path may be quite sharp, provided they are superelevated.

In regard to superelevation, two groups of paths should be distinguished:

- a) Those built to a gradient of 0% to 3%. An average downhill speed of 12 m.p.h. is expected on these segments of bike paths. The sharpest curve may have a radius of 35 ft. and must be superelevated at the rate of 0.10 ft. per foot. Superelevation ceases at 70 ft. radius curves.
- b) Those paths built to a gradient of 4% to 6%. An average downhill speed of 18 m.p.h. is expected on these segments of bike paths. The sharpest curve may have a radius of 80 ft. and must be superelevated at the rate of 0.10 ft. per foot. Superelevation ceases at 150 ft. radius curves.

On steep one-way uphill sections, curves may have a radius of less than 35 ft. and superelevation is not required.

Surface and Drainage

To be attractive to bicyclists, paths must have a surface which offers smooth riding qualities combined with good frictional resistance to tire slipping. H.L. 3 asphalt offers these qualities (H.L. 6 would give a rough ride while H.L. sand mix may cause tire slipping when the pavement is either wet or covered with a layer of dust.) However, a well compacted gravel surface, free of potholes, is acceptable and often useful as a break in the monotony of the surface.

Bicycle paths are not designed to carry heavy vehicles. 2 in. of H.L. 3 asphalt over 6 in. of Granular "A" will, in most cases, carry a service pickup truck while the subgrade is not saturated with water, i.e. June to October. During the remainder of the year, heavy vehicles should be kept off the pavement.

The paths can be drained by a cross slope of 0.02 ft. per foot. This may be applied according to topography. Water from a small area adjacent to the bicycle path may drain across the path. Small areas drain fast and little water would be expected to run across the path after a rainstorm. Water from large areas having the tendency to drain across the paths should be collected in swales alongside the paths. Ditches having steep slopes should be avoided.

Signing

Regulatory signs should generally conform to the system of signs advocated by the Canadian Good Roads Association to their Manual of Uniform Traffic Control Devices for Canada, although this manual does not specifically list signs applying to bicycle paths. Symbolic signs are preferred to worded signs.

Bicycle paths are not intended for use by motor vehicles of any kind. This regulation can be enforced only if signs indicate it at all points of entry to the bicycle path system. The sign recommended for this purpose shows the black outline of a bicycle on a white background inside a green circle. This sign should be mounted on a post so that it can be clearly seen by motorists and bicyclists alike.

Because of physical difficulties which would be encountered in widening paths and relocating park benches, not all existing footpaths may be converted to combined use by pedestrians and bicyclists. At points where exclusive footpaths diverge from bicycle paths, signs prohibiting bicycles would clarify the situation. The sign recommended for this purpose shows the black outline of a bicycle on a white background crossed by a red bar inside a red circle. This sign may be mounted on a post or painted on the asphalt of the path, the choice depending on best design.

Guide signs indicating the name of a particular section of the path system should be erected at junction points of sections and at all external points of entrance to the system. They could also be used to identify streets forming part of the path system

Guide signs should be smaller than regulatory signs because their message is not intended for the passing motorist but for the bicyclist travelling at low speed. All guide signs should be erected on posts, most of them underneath the regulatory sign described above, others alone at junctions of different paths. The latter might have to be supplemented by arrows.

Names of path sections for guide signs should be distinctive to the area traversed.

Safety

Street crossings at grade constitute a hazard to bicyclists. High volume traffic arteries should be crossed at traffic signals only. Parkways and medium volume streets may be crossed at intersections or at midblock provided the crossing is at right angles and protected by signs on the bicycle path. Freeways must be crossed by means of an overpass or an underpass. An alternative to a separate structure would be to use an existing street overpass or underpass, if this does not have serious disadvantages e.g. dangerous crossings of freeway ramps, high traffic volumes on the street, very long detour, etc.

Bicycle paths adjacent to deep water or very steep slopes warrant a railing to protect riders. Where there is sufficient room between the path and the hazard, dense planting of resilient shrubbery can fulfill the role of the railing.

Bicycling and Health

Fitness experts recommend bicycling for physical conditioning, increased circulation and muscle tone, as well as for general good health and recreation. Standard bicycles are a means to allow patients of hospitals to get out in the fresh air.

Bikeways across communities are one means of providing the proper facilities for "preventive medicine." With such facilities strategically located to improve the environment, it will be easier and more pleasant for people to improve their own physical well-being.

For all persons, cycling can work wonders. By co-ordinating cycling with proper nutrition and factual exercise information, this activity can greatly improve the health condition of all classes and age brackets of people.

The Ontario Bikeway Coalition, as a result of the information gathered from their Bikeway Study on this matter, has come up with an approach to help solve the high costs which accompany Health Care Services. Their proposed method is one aimed to "prevent sickness" by encouraging and promoting pleasurable activities, and pleasant, improved facilities that are built around an enhanced environment.

General Points to Consider

There are basically two types of bicycle trails:

1. Utilitarian - a trail that is built for a functional reason, such as getting to work or going shopping.
2. Recreational - a trail that is built purely for recreation. These trails usually connect parks or points of interest, and very often provide for studying the natural environment.

In an urban setting, any bicycle trail that is built could serve both these purposes.

Bicycle paths should provide cyclists with a safe, smooth, comfortable ride; that is, it must have a hard, smooth, wear and skid resistant surface. It seems that asphaltic concrete on a compacted gravel base is the most appropriate. It has a shorter useful life span than concrete, but is relatively less expensive, easier to lay and repair,

and is not so subject to cracking and ridging if the base shifts, while still providing the required surface qualities. On the other hand, compacted aggregate surfaces have a very short life, need constant repair and attention, and form a low traction, rough-riding surface.

The cost of bicycle signs, based on sixteen signs per mile, is about \$300.00.

Flat terrain lends itself to the use of bicycles and will encourage the use of constructed bicycle paths.

If bicycle paths are to be constructed, it must be taken into consideration that racks will be needed so that people can park their bicycles and lock them up.

State of Oregon Highway Fund

366.514 Use of highway fund for footpaths and bicycle trails.

1. Out of the funds received by the commission or by any county or city from the State Highway Fund reasonable amounts shall be expended as necessary for the establishment of footpaths and bicycle trails. Footpaths and bicycle trails shall be established wherever a highway, road or street is being constructed, reconstructed or relocated. Funds received from the State Highway Fund may also be expended to maintain such footpaths and trails and to establish footpaths and trails along other highways, roads and streets and in parks and recreation areas.

2. Footpaths and trails are not required to be established under subsection (1) of this section:

- (a) Where the establishment of such paths and trails would be contrary to public safety;
- (b) If the cost of establishing such paths and trails would be excessively disproportionate to the need or probable use; or
- (c) Where sparsity of population, other available ways or other factors indicate an absence of any need for such paths and trails.

3. The amount expended by the commission or by a city or county as required or permitted by this section shall never in any one fiscal year be less than one per cent of the total amount of the funds received from the highway fund. However:

(a) This section does not apply to a city in any year in which the one per cent equals \$250 or less, or to a county in any year in which the one per cent equals \$1,500 or less.

(b) A city or county in lieu of expending the funds each year may credit the funds to a financial reserve or special fund in accordance with ORS 280.100, to be held for not more than 10 years, and to be expended for the purposes required or permitted by this section.

4. For the purposes of this chapter, the establishment of paths and trails and the expenditure of funds as authorized by this section are for highway, road and street purposes. The commission shall, when requested, provide technical assistance and advice to cities and counties in carrying out the purpose of this section. The division shall recommend construction standards for footpaths and bicycle trails. The division shall, in the manner prescribed for marking highways under ORS 483.040, provide a uniform system of signing footpaths and bicycle trails which shall apply to paths and trails under the jurisdiction of the commission and cities and counties. The commission and cities and counties may restrict the use of footpaths and bicycle trails under their respective jurisdictions to pedestrians and non-motorized vehicles.

5. As used in this section, "bicycle trail" means a publicly owned and maintained lane or way designated and signed for use as a bicycle route.

Oregon Bikeways

Planning Methods

In planning a bikeway, you must:

1. identify user needs
2. classify various needs into user priorities
3. devise methods to accomodate such needs, according to priority

Thence, the information can be quantified and translated from user priorities into territorial priorities, approximate locations, projected goals, and mapping. From mapping and compiled statistical material, construction priorities could be established.

Priorities

1. Establishment of commuter routes in urban areas that will jointly serve school children and cyclists commuting to work, shopping areas, or recreational facilities.
2. Establishment of short recreational bikeways near population centres. The average length of these would be fifteen miles. Bikeways should be planned and developed with pleasure in mind; connecting points of interest, scenic vistas and recreational areas.
3. Establishment of long distance bicycle routes, usually for purpose of touring. Such routes are highly desirable but will be most costly. These trips generally do not mix well with other types of riding because of the speed and the rider's purpose of getting as far as he can in one day.

The ultimate goal is that routes serving the first two priorities may also serve the third wherever planned commuter routes coincide with the overall State plan.

Overall Project Goals

1. Elimination of existing conflicts between automobiles and bicycles.
2. Systematic interpretation of specific accident records in assigning

priorities for work projects.

3. Systematic and continual evaluation of rules of the road with respect to bikeway design and route planning.
4. Increased participation of other agencies in safety education, in accumulation of knowledge on lighting, law enforcement, auxiliary uses, aesthetics, and possible responsibilities in connection with the fixation of ownership registration fees.
5. Systematic and continual re-evaluation of design standards.

Economic Justification

Economic studies were done by the Highway Planning Section to justify per mile expenditures of bicycle route construction. The cost of bicycling, the time required for trips, and the value of time must all be considered.

For trips of five miles or less, the bicycle has a comparative advantage over the automobile, from the standpoint of operating and time costs. Other less tangible benefits could be obtained from reducing automobile traffic. This is so because drivers gain from reduced traffic congestion and reduced part-walk time. School-oriented bicycle routes are the most difficult to justify economically. However, safety advantages gained by providing adequate facilities would far outweigh the actual economic factors.

Financial Aid for Planning

The Highway Commission has approved a concept of offering financial aid to all Councils of Government (COG) to assist in planning within their jurisdictional areas.

COG prepares and submits to State a comprehensive plan of bicycle routes for the area under their jurisdiction within one year of the agreement date. Plans are to include route proposals, priorities, anticipated usage, and suggested methods of construction, as well as existing facilities constructed.

Financial offer based upon a percentage of the total combined funds is available to all governmental agencies within the COG areas for footpaths and bicycle trails, as required by House Bill 1700.

Questionnaire

To provide sufficient information on demand and purpose (sufficient to warrant construction), three types of information are required:

1. Preferences and attitudes of bicycle users
2. Ownership population and estimated proportion that will constitute actual users
3. Kinds of trips made, and location preferences of bike routes

Bikeways may be designed specifically for the following groups:

1. Cyclist organizations and citizen groups engaged in bicycle route planning.
2. The general public, to obtain representative sampling of ideas in urban and rural areas.
3. Grade and high schools.
4. County and city officials to determine their plans, priorities, and needs for bikeways in their communities.

Conclusions from the bicycle users questionnaire were that recreational and transportation facilities are the most important; routes along major arterials and in parks are desired; and bikeways separated from highways are the most desirable type.

Design Particulars

Grades:

For riders on 10-speed bicycles: 7.5% grade for distance not to exceed 300 ft.
10.0% grade for distance less than 100 ft.

Considering facilities for all riders, maximum grades of 5% should be used for bikeway designs. Grades of 7.5% for special conditions or short sections would be acceptable.

Classification of Bikeways

Bikeways may be classified in the following three categories, on the basis of basic design and relationship to the accompanying modes of travel:

Class One - Exclusive Bikeway - A facility completely separated from traffic, either located in a park or parallel to a highway designated for exclusive bicycle usage. These can be used either for one-way or two-way bicycle traffic, with minor pedestrian usage. Potential locations for Class One two-way exclusive bikeways are public parks, open spaces, abandoned railroad rights of way, channels and river banks, alongside new highways, and in newly planned communities.

Class Two - Restricted Bikeway - This type of bikeway is adjacent to the right of way of motorized traffic or pedestrian traffic or both, but providing a physically separated through lane for bicycles only. Through traffic by motor vehicles or pedestrians is not allowed. Parallel conflicts between bicycles and motor vehicles can be buffered by a physical separation and by parked cars. This can provide a right of way for each mode of transportation. To be effective and adaptable for bikeways, a fifty-five foot roadway section would be required. This would provide adequate parking, two travel lanes, and one-way bikeway on each side between the parking and the curb. The Class Two bikeway could be constructed with new highways or during the conversion of two-way streets to one-way couplets; where surplus street width is created.

Class Three - Shared Bikeway - This type is delineated by signing, striping, or other visual marking devices. This may be shared with motorized traffic or separated by striping. This type of bikeway can be constructed on an extended shoulder or can be shared with pedestrian traffic on a widened sidewalk. Shared bikeways set out

rights of way for the bicyclist with respect to the shared traffic. On some city streets, they are marked by signing only. Shared bikeways have an economic advantage over exclusive and restricted bikeways.

Lighting

Regulations specify a rear-mounted reflector visible from 300 ft. and a headlight visible from 500 ft. This lighting equipment will enable the rider to be seen from the front and the back, but will not aid visibility from the side, nor is it of any appreciable aid to forward visibility of the cyclist riding in total darkness at speeds in excess of three miles per hour.

Signing

Standard delineation sign "BIKE ROUTE" and the motorist caution sign are the signs most frequently used. The standard delineation sign is accompanied by the appropriate silhouette bike symbol, and the caution sign has the same symbol which is marked "BIKE XING". New signs may be developed which will include a system of direction, warning, and information intended primarily for bicyclists.

In the development of new signs, the fact that the majority of bikeways will be laid out parallel to automobile traffic lanes must be considered. Therefore, many of the signs intended for bicyclists will be visible to motorists. Because of this, there must be no confusion between the two systems of signs. It is the present intention, therefore, that the study of each new standardized sign shall be exhaustive.

Parks and Rest Areas

Existing parks are the setting for many bikeways. However, parks may also be the principal destination of the bikeway, or they may serve as

rest areas along the route. Rest areas along bikeways will serve slightly different purposes than the rest areas used in freeway operation, simply because they will aid the traveller through periods of fatigue of a different kind.

Rest areas vary in plan: some may be turn-outs on steep grades; others may be equipped with more elaborate facilities. Locking devices on rest area bike racks are not deemed overly important because it is expected that few riders will stray far from their bikes.

Curb Cuts

Transition sections vary from the roll-type mountable curbs to ramps resembling those used for driveways.

Ramps with an easy slope four feet in length encourage bicyclists to enter the street and cross the intersection at high speed. A short slope of one foot is recommended so that the bicyclist will be encouraged to slow down when crossing the intersection. Localized gutter drainage requirements will also require attention. Care is being taken in the design process to assure that ramps can also be used by wheelchair occupants.

The Grate Problem

Parallel placement of bars in the grates of catchbasins facilitates the fall of water into the catchbasin, but allows a bicycle wheel to fall through the spaces between the bars. Welding small, flat crossbars on the pavement inlet grates of all catchbasins on State Highways known to be used by bicyclists.

Standard widths and construction of Oregon bikeways have been found to be similar in most respects to those found elsewhere.

Construction

The final costs of constructing 18.4 miles in 1971-72 was \$16,500/mile or a total of \$304,160.

In most cases, the bicycle routes are one-way facilities which involved widening the

paved shoulder on each side of the highway (Class Three). This has not been too successful because the motorist is inclined to use the widened shoulder for passing left-turning vehicles.

This is the most practical type of route from the standpoint of cost and, if located properly, could be safe. High-volume two-lane highways without left turn refuges should, for the above reason, be avoided. Other undesirable aspects of this type of bikeway are the problems of gravel, glass, etc. collecting.

Four methods of approach to bikeway construction have been developed. They are:

1. Maintenance - work done under the jurisdiction of District Engineers.
2. Parks Development - These are foot-path/bikeways.
3. Highway Project - Preliminary highway design work now includes an appraisal of the feasibility of constructing pedestrian/bikeways as part of any new highway project. Subsequent construction would follow, if found to be feasible.
4. Specific Bikeway Construction - These projects are separated from any other type of construction or activity.

In the first three methods, the bikeway may be placed completely or partially on existing dedicated rights of way, with resultant width limitations in some cases. In the fourth method, right of way is obtained outright as part of the project.

Use Evaluation

There is a preliminary cost per bicycle-user mile. Assuming a ten year life for a \$16,000 per mile bikeway, and based on a 240-day year usage, the average cost per bicycle-user mile is \$.30. On a full year usage the cost per user-mile would be \$.20. These costs can be compared to \$.02 per mile which is the cost for the automobile user on the road.

On all types of bikeways constructed, extreme care must be exercised to provide safe, economical, efficient and enjoyable facilities for the mobility of the cyclist, as well as his compatibility with motorists and pedestrians.

Bicycles do have their disadvantages. They are not efficient in snow, and offer no protection against rain. For the average person, they are no means of long-distance travel, and many elderly and very young persons are unable to use them. However, the bicycle also has many advantages, one of the most important of these being keeping the person physically fit. Such advantages are the reasons why the number of bicyclists has risen.

Bikeways and Safety

Usually, the bicyclist gradually assimilates the meaning of traffic signs and behavior on the road. The bicyclist has learned how to occupy the road space in the relative absence of automobiles and how to use the sidewalks in the absence of pedestrians.

Most of the serious injuries and fatalities connected with bicycle riding result from the collision of bicycles and automobiles. Youthful bicyclists, in particular, tend to stray from delineated bike paths. It could be made a legal requirement that bicyclists use established bikeways in preference to the lanes for motorized traffic. A reduction in potential liability situations and distress over bicycle encounters would provide, for the motorist, a definite benefit from the funds required for bikeway expenditure.

Heavy bicycle traffic must be segregated from heavy auto traffic in order to reduce situations of conflict. The bikeway provides varying degrees of segregation, ranging from routing bikes through less heavily travelled roads and streets (Class Three) to completely segregated facilities (Class One).

Organized public pressure on behalf of bikeway construction comes primarily from urban areas where needs are greater, but where responsibility for streets, sidewalks and other dedicated land use rests primarily with city or county governments.

TRIM TRACKS

Prepared for the Department of
Culture, Youth and Recreation

Province of Alberta, May, 1973

Compiled by Dale Schulha

Generally, the Canadian population is physically unfit. In past years, the average person has not been overly concerned with this fact but recently a "fitness conscience" has overtaken the Canadian public. The physical fitness standards of Canadian people and the North American population, as a whole, are significantly lower than those of European populations. This fact is evidenced by numerous studies conducted by exercise physiologists throughout the world. Many plausible reasons have been put forth to explain this significant discrepancy in fitness standards but one which stands out as a definite contributing factor is the availability of exercise facilities for the general public. European countries, especially Germany and the Netherlands, have been world leaders in the construction of public exercise and fitness facilities.

One facility which has had a tremendous impact on the European people is the trim track. This facility is synonymous with the fitness trail, exercise trail, trim-parcours, vita circuit, sweat track, and fun-fitness-trail. Basically, a trim track is a forest trail specifically designed for walking, jogging, or running, and the performance of certain exercises. The track is usually from one to three miles in length and incorporates as many as twenty exercise stations during its course. This type of fitness facility has become very popular for a number of reasons:

1. It is inexpensive to construct and maintain.
2. It is located outdoors.
3. It is open to all people at all times.
4. The individual performs at his or her level of competence with no interference from anyone.

The trim track has also gained impetus by the fact that it can be used year-round. During the winter months, the track can be used for cross-country skiing or snowshoeing with no damage resulting, and no redesigning of the trail being necessary.

It seems apparent that the trim track is a facility which could meet many of the physical fitness needs of the Canadian public. Trim tracks could be the flexible conditioning program so desperately needed by the people of Canada. However, fitness trails of this nature will only be constructed and maintained as long as the Canadian population shows a sufficient interest in them.

General Information

Recreation training trails shall be laid out to fulfill as many different requirements as possible. Thorough-going plans must therefore be drawn up prior to commencing work.

Preferably, the trail should run through different types of terrain, not least because it will also be used for cross-country skiing. If possible, downhill and uphill stretches of the trail should be about equal in length.

Moreover, the amount of labor and materials needed should be given the consideration, as well as suitable work-out sites where calisthenic equipment can be provided.

If possible, all recreation trail users - ranging from casual promenaders to elite competitors - shall be able to use the trail simultaneously without interfering with each other. Trail width should be from 4 to 6 meters (4 yds 4 in. to 6 yds 6 in.). Along heavily forested

stretches, the trail must be made wider so that falling snow will be able to cover it sufficiently to ensure maximum winter-time usage.

Recreation trails should be of standard lengths: 1.25 km ($\frac{4}{5}$ mile), 2.5 km ($1\frac{1}{2}$ mile), 5.0 km ($3\frac{1}{10}$ mile), and 10.0 km ($6\frac{1}{5}$ mile). Trails of non-standard length are not recommended except in situations where natural conditions so dictate.

Electric lighting should be installed primarily along the 2.5 km ($1\frac{1}{2}$ mile) trails. If the 1.25 km ($\frac{4}{5}$ mile) trail is not incorporated into a 2.5 km ($1\frac{1}{2}$ mile) trail, the 1.25 km ($\frac{4}{5}$ mile) trail should also be lighted - particularly for use by children and teen-agers.

Trails should be laid out to avoid areas in which water accumulates. The first part of the trail should run along the level or through gently rolling terrain. Hereafter, advantage should be taken of the variety offered by the available terrain. All downhill stretches and turns on the trail shall be gentle enough that they can be negotiated by a relatively untrained skier.

Uphill stretches should not be so steep that the skier must resort to herring-bone or switch-back climbing. Grade crossings shall definitely be avoided, as well as roads and highways carrying traffic.

Sufficient parking space must be provided adjacent to the starting points of recreation trails. Access to premises where users can change clothes is another important requirement. These premises shall also provide showers and, preferably, a sauna.

Extras can be added as time goes by to enhance the enjoyment of all users. Examples might include a gentle hill set aside for small children using sleds and "flying saunders", a nature-study station, etc.

Grading and Base Course

The trail is designed so that maintenance work can be carried out using a tractor. It incorporates a base course that can be kept dry throughout most of the year. Care is taken to see that users are not exposed to needless risks. For example, that there are no loose rocks or sharp stumps along the trail.

Rough Grading

The trail area will be cleared from trees through a width of 10 - 20 feet. In heavily forested stretches, the forest adjacent to the trail will be thinned to improve the snow cover. The rough graded trail will be 10 - 20 feet wide, so that it can accommodate a tractor throughout its entire length. The finished trail will be about 9 feet wide.

Drainage

Brooks and streams will be bridged wherever they are crossed. The bridges will be about 10 feet wide and are designed to support a tractor if necessary. Culverts will be provided for ditches and other depressions that would be dammed by the trail. Sheet metal or concrete culverts will be used. To be able to accommodate heavy spring runoffs, the culverts are made double the size of normal dimensions.

As drainage improves, maintenance requirements diminish.

Base Course

On relatively level, dry and porous ground resting on a solid sub-base, the rough graded surface can usually be used as a base for the surface coating. On the other hand, filling with a porous material (gravel or the like) will be provided to a thickness of at least 8 inches on moist ground where the load-carrying capacity is relatively good.

The gravel base course has two purposes: to provide a foundation for service equipment and to provide a drainage base.

On very moist ground where the load-carrying capacity is poor, a corduroy base can be laid. We take logs cut to the width of the trail and space them 1 ft. apart perpendicularly across the trail. Then we put down a layer of spruce branches (about 18 in. thick). Ditches at least 18 in. deep will be dug 3 ft. from the ends of the logs. The material taken from the ditches we then put on the spruce-branch base. The filling above the spruce branches will be about 18 in. thick.

Surface Coating

The Physical Fitness Trail will be surfaced with a soft material. A mixture of sawdust, sand and pinebark can be used. However, a freshly laid surface is loose and difficult to run on in the beginning, but as time passes, it acquires the desired firmness and surface resilience.

The thickness of the surface coating will be 4 - 8 inches, and the width will be about 3 ft. This arrangement permits tractors to be used to maintain the trail without running them on the surface coating.

Just as all other trail work, clearing and rough grading will be carried out in such a way as to provide surroundings that are as attractive and pleasant as possible. Damaged surfaces and gravel courses extending beyond the surface coating, we cover with topsoil and plant with greenery to improve the appearance of the trail.

XIX. CONSTRUCTION OF CROSS COUNTRY SKI COURSES

The ideal trail is laid out in rolling wooded terrain with a number of climbs and descents to give variety. The size of the area available will determine the shape and length of the course. If you are cutting or preparing it for racing purposes, careful attention must be given beforehand to ensure that enough elevation gain is included throughout the course.

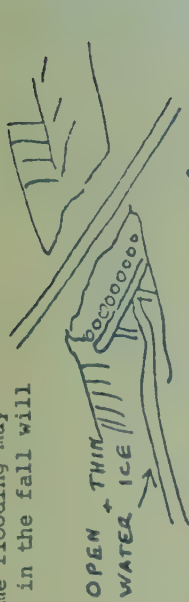
Trail Planning.

1. Permission to use land for this recreative sport may readily be given in preference to oversnow vehicles or trail bikes operators, due to the skis' low environmental impact. However, careless skiers can still cause considerable damage if they are thoughtless. When you have found an area which is suitable to your needs, enquire around and see whether other groups such as school boards, horse riders and natural history groups would like to join you in developing the trail for multipurpose, seasonally differentiated activities. A larger co-operative group using the trail will appeal to private land owners and Provincial or Federal Governments more readily. Once you are organized with a small committee, set your aims and objectives and write them down so all is clearly understood. Be prepared to argue your case and try to anticipate problem points and have an answer ready. Procedure from there is varied due to each unique situation and cannot be elaborated here.

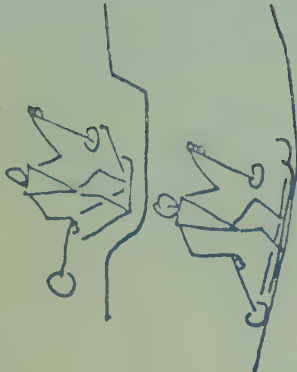
2. Once permission is obtained a good comprehension of the lie of the land is required. Air photographs viewed stereoscopically give the best idea and if these are not available or deemed unnecessary, the area must be hiked with map and compass. Regardless the area should be well known so that topographical features which are too small to be shown with contour lines, e.g. steep sided streams and bluffs, can be filled in on the map. Hiking will also bring to light such situations as large areas of dead fall which might not show on aerial photographs and will require many man-hours to cut through and with planning can be avoided. The best time of year in which to hike is the fall when deciduous trees have shed their leaves, the ground is dry, and the land contours are more easily seen.

3. The following points should be well noted since they will have an appreciable effect on planning and cutting the trail, having a lengthy ski season and skiing safely.

Streams: If these run all winter and the track crosses the ice some flooding may occur. A bridge erected in the fall will remedy the situation.



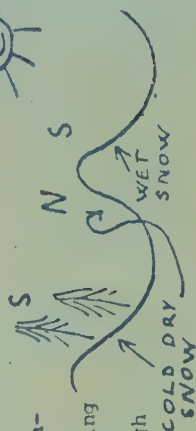
Sharp dips, abrupt angle changes: These have to be cut down or contoured so a ski will not be required to flex too far and break. Avoid excessive earth removal as this takes backbreaking work.



Steep slopes: These are easy to walk down at 4mph but at speed they are more difficult. Note whether there is a good run out or elevation rise to assist slowing down. Avoid sharp bends at speed.



South facing slopes: These will catch the sun in winter and be comparatively warm compared with shadowed or North facing slopes. However, in Spring they are far warmer and snow may well melt early. Try and run trails through trees on South slopes.



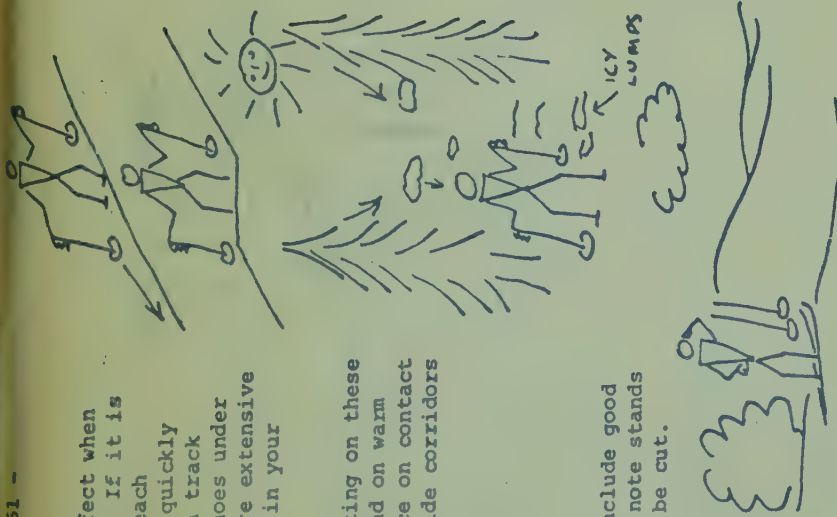
Prevailing wind: These occur in some areas and should be taken into consideration on exposed slopes.



Hill angle: This has an effect when one is traversing across a hill. If it is steep skis tend to slip down on each successive pass, so the trail is quickly broken. It is difficult to set a track with oversnow vehicles or snow shoes under these conditions. It will require extensive cutting to remedy or be included in your course.

Coniferous trees: Snow resting on these wide branches slumps to the ground on warm days and freezes into lumps of ice on contact with the ground. Try and find wide corridors for trails through these trees.

Views and flora: Try and include good distance views in your trail and note stands of mature trees which should not be cut.



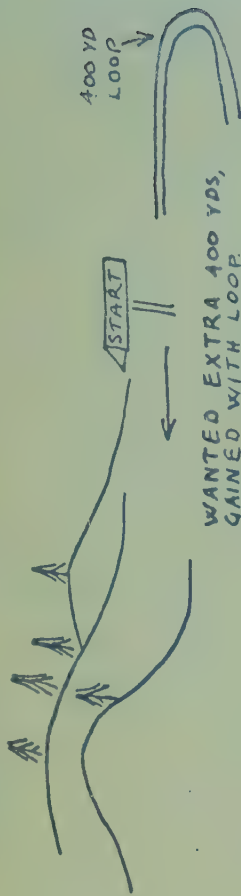
4. On a racing trail check points have to be placed at the extreme sections of the course. They should have a good position where the checker can shelter and record the race number. They can also double for feeding stations on long races. Inclusion of a woodpile for a small fire would do much to ease the official's discomfort. Access should be easy if possible.

5. Total elevation gain for race trails must be in the following range to meet international standards. This may be impossible to gain but every track need not meet international standards.

Course	Total elevation gain range
5 km women's	492 - 656 feet
10 km women's	820 - 1150 feet
10 km men's	984 - 1475 feet
15 km men's	1475 - 1965 feet
30 km men's	2480 - 3280 feet
50 km men's	3940 - 4920 feet

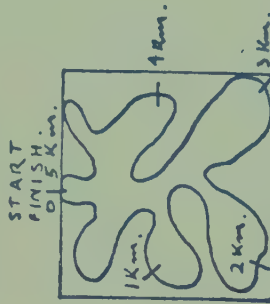
Trail Staking

Bearing in mind the above points walk around the proposed course and try to have a ratio of 1:1.1 of flat, uphill and downhill. If you want the course to be a special distance check the scale of the photograph and measure the photograph distance onto a paper edge.

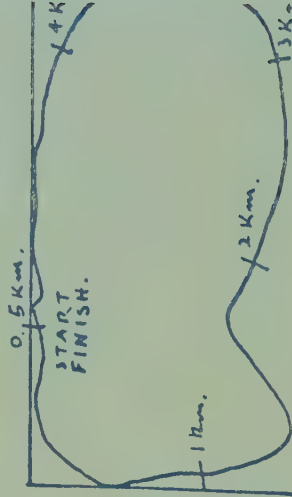


Start the measuring and actual physical marking of the distance from an area where it is easy to add or subtract a loop to adjust to the distance required. You are now prepared to stake or tag your trail.

SMALL AREA.



LARGE AREA.



1. To obtain the most distance for your trails in a small area, loops going out and coming back to a central point are best laid out. Large areas do not have to consider this.

2. Walk around the course and tag with surveyor's ribbon. Leave the course alone completely for a week and then return and walk again. Check it for all points mentioned above. If there are inaccuracies, carefully remove the surveyor's tape and remark.



3. Before making plans to cut the trail walk around with an environmentally knowledgeable person, probably from the Provincial Government, and see if you are likely to have any erosional or other problems associated with the trail.

Trail Cutting

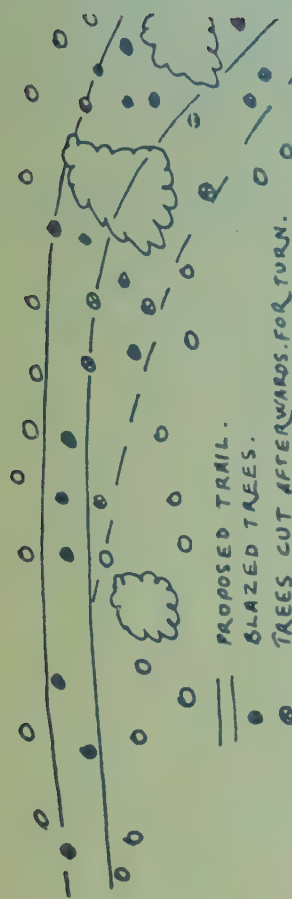
In one's eagerness to cut a trail excessive cutting or pruning can be carried out, so well led and organized groups must be provided.

1. A community well organized can cut a trail in a short period of time. Appoint leaders of 3 man groups to cut and clean a section of trail, distance is determined by the degree of difficulty and amount of work involved. These leaders are responsible for the safe use and maintenance of the tools. All tools should be sprayed with fluorescent orange or have surveyor's tape stuck to them to prevent loss in the undergrowth.

2. Meals should be eaten at the trail site since it might be difficult to round up volunteers from their homes after lunch. This should be an enjoyable occasion with food supplied by mothers and daughters. Group photographs and certainly the local Newspaper photographer will develop a group spirit or cohesiveness besides providing advertising at no cost.

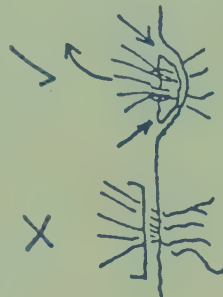
Brush Cutting Technique

1. The trail should be a minimum of 8 feet wide and wider at corners. All trees to be cut should be marked beforehand with a blaze. Be conservative in marking, it takes two minutes to cut but forty years to grow. Better to go around later and line up the trails by cutting



more, than cut everything in sight.

2. Brush should be cut out by the roots to prevent further growth. As it is cut it should be cleared to the downhill side of the trail and packed to provide a more even surface. Dirt thrown on top from the uphill side will root grass and stabilize any erosion. A slight slope of 5 or 10 degrees makes it difficult to



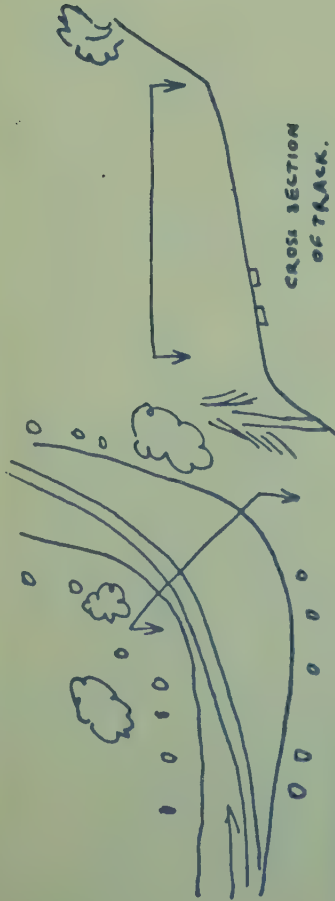
use oversnow vehicles since they slip laterally. Think carefully on this point.

3. As you go along ensure that all sharp projections are cut off and a falling skier will not impale himself on cut branches.
4. Sharp depressions should be filled or cut back to provide even contours. If they are channels for water run off try and find old

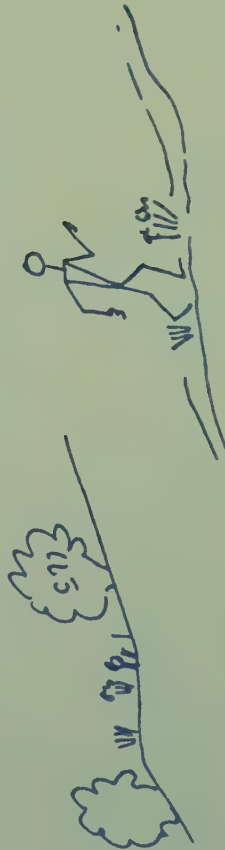


culverts which can be placed in them before filling. This will prevent a washout each year.

5. Sharp turns should be widened and banked alightly to assist



the skier turn.



If the growing season has not finished, plant fescue or clover in the earth cut track sections to prevent erosion and make it pleasant to hike and train on.

Winter Track Setting

For good ski-ing, whether touring or racing, a set of ski tracks increases immeasurably the pleasure to be had through this sport. The following points must be considered before setting the track.

1. Snow has the peculiarity of, when being disturbed, in combining together and forming a more solid mass after a period of 24 hours. This fact is utilized by setting tracks at least a day ahead of when they are to be used so the skis can run in firm tracks and the poles do not sink into the snow.

2. Where possible on a trail a pair of tracks should be set. This allows for the slower skier to step aside into the second set which gives him good directional ski-ing while the faster skier travels on without a break in stride. However, on hill corners skiers will invariably take the flattest turn.

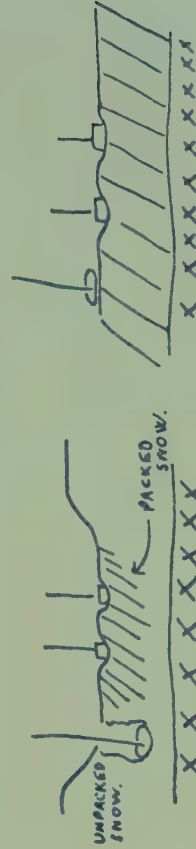


The tracks should be set so they come into the corner high on the outside and cut low to the inside. On slow, less tight turns parallel sets of tracks can still be used.

3. As the snow builds up during the winter twigs and branches which could not be reached in the fall could well be brushing the taller skiers faces. A check around the course with saw and pruners will eliminate these painful objects.

4. The ski trail is not packed again until the tracks are really well worn and no longer hold the skis. A heavy snowfall makes poling too hard and obliterates the track and this also requires track setting.

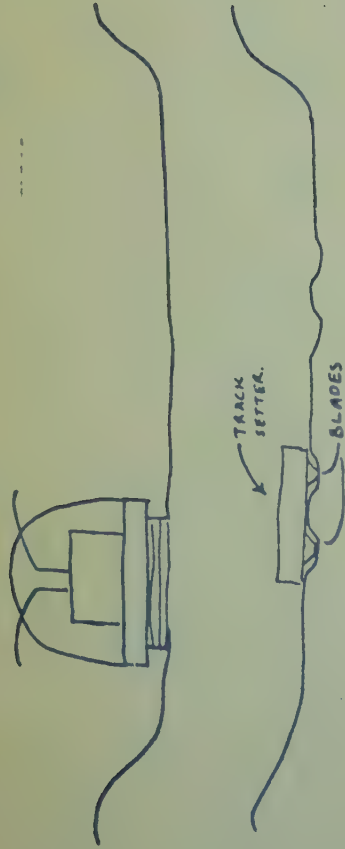
5. The snow either side of the ski track must be packed well so that the poles can be planted firmly without giving way.



Track Setting Methods

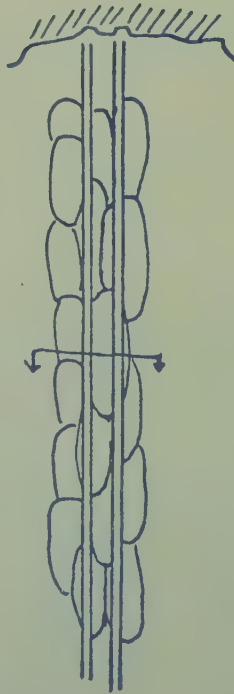
A. Oversnow vehicle and tracksetter: The oversnow vehicle should have cleats fastened to its tread to prevent lateral sliding on sloping trails. It is run over the trails to pack the snow in

1 2 3 4 5 PASSES.



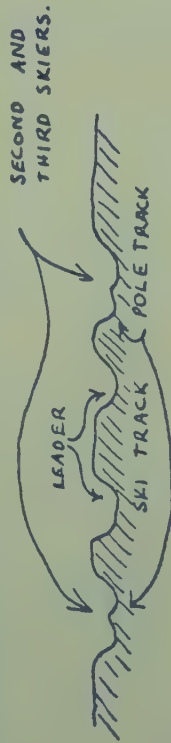
6-8 feet wide swaths. A track setter, very much like a heavy sledge, with a fixed hitch is dragged behind the oversnow vehicle. Protruding through the bottom of the track setter are two steel plates which cut tracks the width of each ski and six inches apart on the inside edges (see plan).

B. Snowshoes and skis: A group of skiers sets out on snowshoes to pack the trail on foot. Experienced heavy skiers come behind



and set the track by pressing hard on their skis to develop the groove.

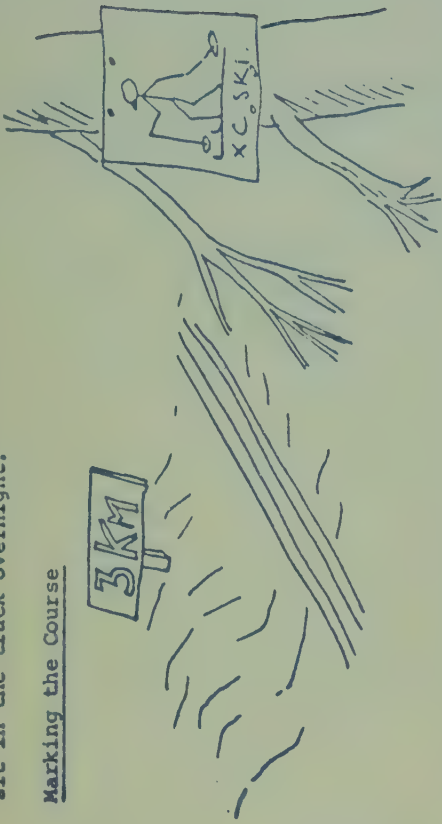
C. Ski: The trail is skied by a group of skiers. The leader takes the course which one would follow when racing, carefully keeping his



SPARE SKIERS ASSIST IN PACKING POLE + SKI TRACK.

skis as wide as the six inch width. The next two skiers maintain a position to left and right of the leader's tracks but keep their feet close together. Other skiers come behind and either break down the snowridges by the pole track or skis in the main track. Last skier travels behind and makes sure no large lumps of snow sit in the track overnight.

Marking the Course



For racing the kilometre distances should be marked cumulatively while the tourers might only need a cross country skier symbol in fluorescent paint fastened to trees signifying the trail. One hopes this will be respected by other recreational enthusiasts. Tr and remain on good terms with these local clubs. If they are over-snow vehicle operators ask for assistance from them when delivering people to check points for races or timed tours. Snowshoers will be only too glad to pack your trail and maybe they could help with the mid-winter pruning. A connival get together during or at the end of the year could create good relations.

Trail Specifications (General Use,
Cross Country)

1. Where suitable, existing trails, unused roads, seismic lines, and other usable areas should be utilized and upgraded where necessary to meet or exceed minimum requirements. New construction and clearing should be kept to a minimum.
2. Obstructions in excess of 10 in. above ground should be removed or routed around.
3. Trails should traverse as much variety in terrain, vegetation, and scenery as possible while maintaining a safe trail which does not seriously interfere with other resources.
4. Trail length may vary from 5 - 50 miles. Trails within a desirable range of 15 - 30 miles with shorter alternate routes are preferred. Expressed in travel time, most trails should not exceed 4 hours in average travel time.
5. One-way loop trails are much preferred from the standpoint of safety as well as variety and economy in construction and maintenance. Short spur routes may take the snowmobiler into an area of special scenic or historic interest rather than running the main trail through such an area.
6. Trail widths will, of necessity vary with topography, land characteristics, curves and intersections. An 8 ft. trail width is desirable but may vary from 6 to 12 ft. for one-way travel. Where two-way trails are necessary, minimum width should be 12 ft. An additional 2 ft. outside the trail edges should be cleared of brush where practical. Trail width should be increased if the desired vehicle speed is increased, and where necessary to improve visibility.
7. Clearing should extend vertically to a height of 10 ft. above normal maximum snow accumulation.
8. A minimum turning radius of 25 ft. is recommended, however it can vary according to the desired speed.
9. Visibility (sight distance) should extend at least 50 ft. horizontally and vertically throughout the trail. Road intersections should be adequately marked with warning and stop signs.
10. Grades should not generally rise or fall more than 25%. Depending on the length and degree of slope, a straight, long run-in may be desirable. Trails should generally cross perpendicular to contours and not cut along side slopes.
11. Trails should not be routed over lakes, streams or other bodies of water where maximum depth of flow may exceed two feet at any time. Where stream crossings are unavoidable, bridges at least 8 ft. wide should be constructed capable of retaining snow cover and supporting maintenance equipment.
12. Ideally, trails should not cross travelled roads.
13. Occasional open areas suitable for frolic, rest or "blowing-out" carbon deposits should be provided. An open area should be provided at the start for warm-up, trial runs, etc.
14. Trails should be routed away from winter browse areas, experimental stations, tree plantations, and other areas of possible conflict.
15. Trails must be maintained constantly. Dragging to eliminate "moguls" or humps on trails is vital to enjoyable use and should be done after each new snowfall and once a week on heavily used trails. Where highway crossings are unavoidable, snow buildup from

grading should be cut down for easy access. Trails should also be inspected for new hazards, sign replacement, and clean-up periodically.

16. Strict control of trail access points is highly recommended to minimize access and to avoid undesirable traffic or uses.

Facilities Standards

1. Where possible, existing facilities should be utilized provided that such use does not interfere with other normal uses and that deterioration of or damage to the area does not exceed that normally anticipated from other uses.

2. Adequate parking space should be provided for parking of vehicles with and without trailers as well as a parking or assembly area for snowmobiles.

3. A suitable area for loading and unloading snowmobiles is needed to reduce traffic congestion and potential hazards to pedestrians and snowmobilers.

4. Trash receptacles and toilets must be provided. Picnic tables and fireplaces are suggested.

5. The following facilities are considered optional and may be provided if desired:

- a. Warming shelters
- b. Rental, repair and fuel concessions
- c. Camping facilities
- d. First aid and emergency facilities
- e. Telephone
- f. Food service

If these facilities and services are not available at the trail itself, nearest locations should be posted on signs near start of trail.

Recreation Trail Funding Sources and
possible Assistance

Assembled in the Secretariat, Alberta
Government Recreation Committee

Construction and operation of recreation facilities, including trails, has received funding from various Federally and Provincially funded temporary employment programs such as OFY, LIP, LEAP, STEP, PEP.

The distribution of funds is handled by the Alberta Department of Manpower and Labour. Application must be made to the agency which advertises these programs.

In the case of Opportunities for Youth, a separate office of the Secretary of State exists in Edmonton (Phone 425-7535). LIP and LEAP are handled through Canada Manpower. Contact Cliff Dwight for information on LIP and Adolf Manze for information on the LEAP program (similar to LIP except that projects might extend to 3 years duration).

STEP and PEP are Provincially funded programs. Information on these can be obtained from Dave Chabillon, Department of Manpower and Labour (Phone 423-1619).

Other possibilities within the Provincial Government are the Forests Division, Department of Lands and Forests, and the Volunteer Services Unit, Youth Services, Department of Culture, Youth and Recreation. The latter undertakes assistance especially for those with disabilities.

Other possible sources of funding listed here were drawn from
A Guide to Programs of Assistance in Alberta.

TITLE: Recreation Administration Grants

DESCRIPTION: The Minister may make grants to organizations, public bodies or other persons for the following purposes:

a. To assist provincial athletic associations in sending provincial winners and, where deemed necessary, a team coach and chaperone to Canadian finals leading to Olympic, British Empire, and Pan-American competitions and to Canadian finals that do not lead to the aforementioned competitions, but which, in the opinion of the Department, are amateur activities worthy of support. No grant for the above purposes shall exceed one-half of the return economy class air fare for each athlete, coach or chaperone attending the Canadian finals up to a maximum of \$2,000 for any one team or competition.

b. To assist voluntary provincial recreation organizations in respect of their general administration expenses as shown on their audited financial statements, but a grant in such case shall not exceed \$500 in any one fiscal year to any one organization.

c. To assist provincial sports governing bodies to defray expenses in conducting a provincial or national championship event, but a grant in such case shall not exceed \$100 for a provincial championship event or \$1,000 for a national championship event.

AVAILABILITY: Provincial athletic associations, provincial voluntary recreation organizations, municipalities.

FOR INFORMATION CONTACT: Recreation Development
Alberta Culture, Youth and Recreation
14th Floor, C.N. Tower
Edmonton, Alberta - Ph. 429-7651

5.13 A

TITLE: Community Recreation Facilities Planning

DESCRIPTION: To work with municipal authorities in determining the need for development of Recreation facilities. To work with municipal authorities and/or their representatives in preliminary planning and design of needed recreational facilities. To work with municipalities in finance methods of capital building and to recommend financial assistance according to existing legislation. To determine with municipal authorities the maintenance and operating cost to be expected with certain capital development. To encourage long-range planning in accord with anticipated and predicted trends.

AVAILABILITY: To all municipal authorities in the Province of Alberta.

FOR INFORMATION CONTACT: Area and Facilities Planning
Recreation Branch
Alberta Culture, Youth & Recreation Dept.
14th Floor, C.N. Tower

6.9 A

TITLE: Forest Land Use Supervision

DESCRIPTION: A service is provided to all users of forest land. Advice is given on road and site location, construction methods, procedures to prevent or overcome problems of soil erosion and water pollution, and prevention of fire hazard. This assists the industrial users to comply with legislation and regulations for the protection of timber, wildlife, watershed value and other resources.

AVAILABILITY: Any operation in the forested area, particularly the timber industry, the oil and gas industry, and the mining industry.

FOR INFORMATION CONTACT: Alberta Forest Service
Alberta Lands & Forests Dept.
Natural Resources Building
Edmonton, Alberta. Ph. 229-3185

Forest Superintendents
See Page 10.10

6.13 A

TITLE: Provincial Parks

DESCRIPTION: The setting aside of suitable rural areas for the purpose of providing active and passive recreation in a setting of natural beauty providing some or all of the following activities: Picnicking, swimming, boating and fishing, camping nature appreciation, hiking, sightseeing and photography, and limited winter recreation.

AVAILABILITY: Alberta residents and visitors.

FOR INFORMATION CONTACT: Provincial Parks Division
Alberta Lands & Forests Dept.
Natural Resources Building
Edmonton, Alberta. Ph. 229-3073

Park Supervisors
See Page 10.11

6.14 A

TITLE: Recreation Areas - Alberta Forest Service

DESCRIPTION: Provides for the planning, development and maintenance of numerous recreation areas throughout the forest area of the Province. These areas contain picnic and camping facilities for the travelling public at no charge.

AVAILABILITY: Travelling public.

FOR INFORMATION CONTACT: Alberta Forest Service
Alta. Lands & Forests Dept.
Natural Resources Building
Edmonton, Alberta Ph. 229-4358

Forest Supts.
See Page 10.10

6.33 A

TITLE: Land Assembly Program

DESCRIPTION: Enables the Provincial Government to withdraw marginal lands from agricultural production. These uses may include grazing reserves, reforestation, recreation, wildlife conservation or watershed conservation. The lands are purchased at their fair market value for specific government projects or administered as Public Lands by the Department of Lands and Forests.

AVAILABILITY: Municipal governments and individuals.

FOR INFORMATION CONTACT: Interdepartmental Relations
& Land Conservation Div.
Environment Dept.
10040 - 104 Street
Edmonton, Alberta. Ph. 425-1130

District Supervisors. Page 10.10

6.52 A

TITLE: Historical Site Preservation

DESCRIPTION: The Provincial Parks Division establishes sites which have local or provincial and cultural importance, such as old fortifications, petroglyphs and pictographs, Indian archeological sites, etc.

The purpose of such established sites is to preserve portions of the country's cultural heritage for interpretation and display in an appropriate manner and for scientific research.

AVAILABILITY: Alberta residents and visitors.

FOR INFORMATION CONTACT: Provincial Parks Division
Alberta Lands & Forests Dept.
Natural Resources Building
Edmonton, Alberta

8.138 A

TITLE: Agricultural Recreation Program

DESCRIPTION: To assist individuals and/or organizations to develop agriculturally based recreation facilities and services as a supplementary enterprise to farming or ranching. Information regarding developmental assistance is provided to the supplier of the facility. Needs of the "consumer" as a group or individuals are catalogued, and communicated to the recreation developers.

AVAILABILITY: Persons controlling facilities suitable for development for recreation and/or holiday purposes. Individuals or groups wishing to avail themselves of rural based recreation or holiday facilities.

FOR INFORMATION CONTACT: District Agriculturist (p. 10.1)

District Home Economist (p. 10.3)

Agricultural Recreation Supervisor,
Extension Division
Agriculture Dept.
9718 - 107 St.
Edmonton, Alberta.

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